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University History Series

Elmo R. Morgan

# PHYSICAL PLANNING AND MANAGEMENT: LOS ALAMOS, UNIVERSITY OF UTAH, UNIVERSITY OF CALIFORNIA, AND AID, 1942-1976

With an Introduction by
William B. Baker

Interviews Conducted by
Germaine LaBerge
in 1991

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Since 1954 the Regional Oral History Office has been interviewing leading participants in or well-placed witnesses to major events in the development of Northern California, the West, and the Nation. Oral history is a modern research technique involving an interviewee and an informed interviewer in spontaneous conversation. The taped record is transcribed, lightly edited for continuity and clarity, and reviewed by the interviewee. The resulting manuscript is typed in final form, indexed, bound with photographs and illustrative materials, and placed in The Bancroft Library at the University of California, Berkeley, and other research collections for scholarly use. Because it is primary material, oral history is not intended to present the final, verified, or complete narrative of events. It is a spoken account, offered by the interviewee in response to questioning, and as such it is reflective, partisan, deeply involved, and irreplaceable.

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It is recommended that this oral history be cited as follows:

Elmo R. Morgan, "Physical Planning and Management: Los Alamos, University of Utah, University of California, and AID, 1942-1976," an oral history conducted in 1991 by Germaine LaBerge, Regional Oral History Office, The Bancroft Library, University of California, Berkeley, 1992.

Copy no. 1

Elmo Morgan, 1988

## Cataloging Information

MORGAN, Elmo R. (b. 1913) University administrator

Physical Planning and Management: Los Alamos, University of Utah, University of California, and AID, 1942-1976, 1992, ix, 274 pp.

Childhood on Idaho farm, Mormon family background; engineer degree, Utah Agricultural College; building living quarters and technical buildings for Project Y, Manhattan Engineer District, 1942-1946; Atomic Energy Commission in Los Alamos, 1947-1951; vice president for business, University of Utah, 1951-1957; vice president, University of California, 1960-1970: legislative relations, budgets, physical planning and construction, building techniques, management techniques; consulting work for AID [Agency for International Development], Water for Peace, and UC Abroad worldwide; facilities management at UC Berkeley, 1974-1976; volunteer work for Boy Scouts and UC Botanical Garden.

Introduction by William B. Baker, Vice President-Budget and University Relations, University of California

Interviewed 1991 by Germaine LaBerge for the University History Oral History Series. The Regional Oral History Office, The Bancroft Library, University of California, Berkeley.

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## PREFACE

When President Robert Gordon Sproul proposed that the Regents of the University of California establish a Regional Oral History Office, he was eager to have the office document both the University's history and its impact on the state. The Regents established the office in 1954, "to tape record the memoirs of persons who have contributed significantly to the history of California and the West," thus embracing President Sproul's vision and expanding its scope.

Administratively, the new program at Berkeley was placed within the library, but the budget line was direct to the Office of the President. An Academic Senate committee served as executive. In the more than three decades that followed, the program has grown in scope and personnel, and has taken its place as a division of The Bancroft Library, the University's manuscript and rare books Library. The essential purpose of the office, however, remains as it was in the beginning: to document the movers and shakers of California and the West, and to give special attention to those who have strong and often continuing links to the University of California.

The Regional Oral History Office at Berkeley is the oldest such entity within the University system, and the University History series is the Regional Oral History Office's longest established series of memoirs. That series documents the institutional history of the University. It captures the flavor of incidents, events, personalities, and details that formal records cannot reach. It traces the contributions of graduates and faculty members, officers and staff in the statewide arena, and reveals the ways the University and the community have learned to deal with each other over time.

The University History series provides background in two areas. First is the external setting, the ways the University stimulates, serves, and responds to the community through research, publication, and the education of generalists and specialists. The other is the internal history that binds together University participants from a variety of eras and specialties, and reminds them of interests in common. For faculty, staff, and alumni, the University History memoirs serve as reminders of the work of predecessors, and foster a sense of responsibility toward those who will join the University in years to come. For those who are interviewed, the memoirs present a chance to express perceptions about the University and its role, and offer one's own legacy of memories to the University itself.

The University History series over the years has enjoyed financial support from a variety of sources. These include alumni groups and individuals, members of particular industries and those involved in specific subject fields, campus departments, administrative units and special groups, as well as grants and private gifts. Some examples follow.

Professor Walton Bean, with the aid of Verne A. Stadtman, Centennial Editor, conducted a number of significant oral history memoirs in cooperation with the University's Centennial History Project (1968). More recently, the Women's Faculty Club supported a series on the club and its members in order to preserve insights into the role of women in the faculty, in research areas, and in administrative fields. Guided by Richard Erickson, the Alumni Association has supported a variety of interviews, including those with Ida Sproul, wife of the President; athletic coaches Clint Evans and Brutus Hamilton; and alumnus Jean Carter Witter.

The California Wine Industry Series reached to the University campus by featuring Professors Maynard A. Amerine and William V. Cruess, among others. Regent Elinor Heller was interviewed in the series on California Women Political Leaders, with support from the National Endowment for the Humanities; her oral history included an extensive discussion of her years with the University through interviews funded by her family's gift to the University.

On campus, the Friends of the East Asiatic Library and the UC Berkeley Foundation supported the memoir of Elizabeth Huff, the library's founder; the Water Resources Center provided for the interviews of Professors Percy H. McGaughey, Sidney T. Harding, and Wilfred Langelier. Their own academic units and friends joined to contribute for such memoirists as Dean Ewald T. Grether, Business Administration; Professor Garff Wilson, Public Ceremonies; Regents' Secretary Marjorie Woolman; and Dean Morrough P. O'Brien, Engineering.

As the class gift on their 50th Anniversary, the Class of 1931 endowed an oral history series titled "The University of California, Source of Community Leaders." These interviews will reflect President Sproul's vision by encompassing leadership both state- and nationwide, as well as in special fields, and will include memoirists from the University's alumni, faculty members and administrators. The first oral history focused on President Sproul himself. Interviews with 34 key individuals dealt with his career from student years in the early 1900s through his term as the University's 11th President, from 1930-1958.

More recently, University President David Pierpont Gardner has shown his interest in and support for oral histories, as a result of his own views and in harmony with President Sproul's original intent. The University History memoirs continue to document the life of the University and to link its community more closely -- Regents, alumni, faculty, staff members, and students. Through these oral history interviews, the University keeps its own history alive, along with the flavor of irreplaceable personal memories, experiences, and perceptions.

A full list of completed memoirs and those in process in the series is included in this volume.

The Regional Oral History Office is under the the direction of Willa K. Baum and under the administrative supervision of The Bancroft Library.

9 November 1987
Regional Oral History Office
University of California
Berkeley, California

Harriet Nathan, Series Director
University History Series

Willa K. Baum, Division Head
Regional Oral History Office

## INTRODUCTION--by William B. Baker

I had the privilege of meeting Elmo Morgan in 1964 when I first came to the University of California as an associate engineer in the office of the vice president-business. I had come to the University from a position of resident engineer for the State of California, working on the San Francisco-Oakland Bay Bridge reconstruction project where all of my associates were engineers, and was feeling a little uneasy about this transition to working in academic circles. Nothing, therefore, could have pleased me more than learning that the vice president of my new division at the University was not only an engineer, but a civil engineer at that, which is my own specialty. It was a good omen for my fledgling career, and it has fulfilled itself time and again over my twenty-seven-year association with Elmo Morgan. The vice president's corner office became a goal for me, one that luckily was achieved in title, though in a different corner office. Elmo was then, and continues to be, a mentor to me in both my career and my personal life.

Elmo was born April 25, 1913 in Liberty, Idaho, not too far from the Utah state line. He attended Utah State University in Logan, Utah, working as a research assistant at the Utah Experiment Station, and was graduated with honors in 1935 (the year of my birth) with a bachelor of science degree in civil engineering. He began his carer of leadership early, as student-body president at Utah State, and was also a member of Phi Kappa Phi.

After his graduation from Utah State, Elmo became assistant state engineer for Utah, working on water problems throughout the state. From 1940 to 1951, he was first with the army, and later with the Zia Company (a private firm), and then the Atomic Energy Commission, all working on different aspects of the atomic bomb project in New Mexico. Returning to academia, Elmo spent seven years at the University of Utah, first as coordinator for cooperative research, and then as vice president-business affairs. At the request of the State of Utah, Elmo took a year's leave of absence in late 1958 to be director of highways for the state. He first joined the University of California in January 1960 as vice president-business. Elmo's reputation for excellence is wide, and in 1967-1968 he was granted a leave of absence from the University to accept an appointment in Washington, D.C. as Deputy Assistant Secretary of the Interior, focusing on water pollution control. Throughout his University career, Elmo's title and scope of responsibilities changed several times, and when he left the University in 1970, he was vice president-physical planning and construction, and had overseen the planning and construction of three new UC campuses at Santa Cruz, San Diego, and Irvine, as well as shepherding the other six campuses through a decade of unprecedented growth.

From 1970 to 1973, Elmo worked with a private architectural firm, John Carl Warnecke and Associates, in San Francisco and then returned to the Berkeley campus to lead their capital planning efforts. Since his retirement from this full-time position, Elmo has continued to work with both the campuses and the Office of the President on a consultant basis, providing an on-going source of knowledge, experience, and expertise that has been of inestimable value.

The focus of Elmo's contributions has undoubtedly been his style of management, one I certainly have tried to emulate. Perhaps it can best be described as that of consensus builder. To Elmo, it is not sufficient merely to make a decision, however right it may be, and move forward with it. What is important is to have the technical and managerial knowledge and the ability to bring others to see that this is, in fact, the best course of action. Elmo is always ready and willing to help solve a problem so the solution is one with which everyone is comfortable. He has a unique way of working with people--his "missionary work" as he used to call it--to outline alternative solutions and to build consensus among those concerned. He has a strength of character and a sense of honesty that makes everyone know that there is a man to be trusted and that he does, indeed, have their best interests at heart.

Yet, despite all these professional and management accomplishments, Elmo is a man of much broader interests. He has for many years been very active in the Boy Scouts of America programs and was a member of their executive board. He has always been an active member of his church, the Church of Jesus Christ of Latter Day Saints. He joined the army reserve upon completion of his active military duty, reaching the rank of colonel, and was assigned to the chief of staff for research and development at the Pentagon. He has always been active in community affairs and ready to help when needed. Elmo and his wife, Frances, have a daughter, two sons, their spouses, and several lovely grandchildren who are their pride and joy.

Elmo and Frances now live in Walnut Creek, California, fortunately close at hand to the University. Elmo and I still have breakfast together at least once a month, and he continues to provide insights and guidance to me and other University associates that are always worth heeding.

Leader, guide, counselor, mentor, and friend: Elmo Morgan has no peer.

William B. Baker
Vice President-Budget and University Relations

October 4, 1991
University of California, Berkeley

## INTERVIEW HISTORY--Elmo R. Morgan

Elmo Morgan has tried to retire from the University of California more than once. He is simply indispensable. First hired as vice president-business in 1960, he served in that capacity until 1965 when he was named vice president-physical planning and construction in 1965. These were the years of expansion as three new campuses--Santa Cruz, Irvine, and San Diego--were added to the University system. When his task was completed, Mr. Morgan retired in 1970 to work in the "real world."

But not for long. In 1974, the Berkeley campus needed a director of facilities and who better could fill the bill than Elmo Morgan? In 1977 when he retired from that position, then-Chancellor Heyman recruited the experienced "man for all seasons" as a consultant on the biosciences building project at Berkeley.

One person Elmo hired during his tenure was the present Vice President-Budget and University Relations William B. Baker. Vice President Baker recognized the contributions Elmo Morgan has made to the University community in so many aspects of its development, and began the process leading up to the recording of his memoirs in 1991. Incidentally and characteristically, Mr. Morgan still serves as advisor to the vice president on budgetary matters.

The focus of the interview has been the expansion and preservation of the University's physical plant since 1960. In addition to discussing his years at the University, Mr. Morgan discusses his childhood in Liberty, Idaho; his schooling at Utah Agricultural College; his choice of engineering over agriculture as a career. All these early influences impacted his later paths; more than once people from his past figure again in other areas of his life.

A fascinating facet of Mr. Morgan's background is his army service during World War II. A member of the corps of engineers, his area included Los Alamos, New Mexico: Elmo was part of the team that conceived and built the living and technical areas where Project Y was taking place. "They didn't tell us they were going to build a test site for an atom bomb. My putting that together was after the fact. All they told us was they had to have a test site in a very remote area where they could have a high degree of security."

After the war, the Morgans remained at Los Alamos where Elmo helped convert the area to civilian status. But his business expertise was needed elsewhere. The University of Utah sought him out in 1951 to help with the expansion of their medical school. John Bowers, M.D., who had studied the effects of radiation at Los Alamos under the auspices of the Atomic Energy Commission, had become the new dean at the College of Medicine. Dr. Bowers was instrumental in bringing the Morgans back to Utah.

The governor of Utah engineered a leave of absence for Elmo because the state needed him as director of highways. Again, this was a typical event in his life: Governor Clyde had been one of Elmo's major professors in his undergraduate days at Logan. "He had followed my career quite closely and had expressed to me before he became governor that he envied my valuable experience in administering the size of program that I did in the army and particularly at Los Alamos."

All this led up to his recruitment to the University of California. But even during his tenure here, Elmo traveled worldwide working with AID and the Water for Peace program of the U.S. Department of the Interior. In his oral history, he relates wonderful anecdotes of this work: meeting Haile Selassie's lions on his compound in Ethiopia; driving through Greece with the man who had been chauffeur to General Eisenhower during World War II; receiving roses and welcome at 2:00 A.M. from Orthodox Jewish rabbis in Tel Aviv.

Thirteen interview sessions were recorded, all in the conference room of The Bancroft Library on March 13, 19, 25; April 9, 19; May 7, 14, 22, 29; August 29; September 5, 11, 17, 1991. Mr. Morgan always came well prepared with notes and outlines of his own. He often brought articles to illustrate the story--the golden coin from Ethiopia, the remnant of the Trinity test site outside of Los Alamos, books from his many travels. Most often, Mr. Morgan came to the interview directly from a meeting of the Boy Scout Council, or the board of directors of the Botanical Garden, or a consultation with Vice President Baker. The interviewer came to know that this aspect of his personality--continual service in whatever capacity needed--is a hallmark of his life. As yet another example: after the East Bay hills fire in October of 1991, Elmo offered advice and support--sure and steady--on the rebuilding process to the interviewer's family.

The recorded interviews were transcribed, edited, and sent to Mr. Morgan for approval. He spent a considerable amount of time verifying dates, place names, and spellings. Because he spoke so clearly and logically, the discussions needed little clarification. The interview is a valuable addition to the University History Series of the Regional Oral History Office. As the University faces both budget cuts and need for expansion, Elmo Morgan's expertise can provide insight for future plans.

Thanks are due to Vice President William Baker for making this oral history possible through encouragement and funding. Jo Ann Catton of the vice president's office gave the interviewer ideas for discussion as did Doras Briggs, who worked under Elmo Morgan during the years of expansion. In addition, the vice president's introduction to this volume presents a personal portrait of his longtime friend and mentor.

I would also like to thank Bill Roberts, University Archivist of The Bancroft Library, for providing papers relating to the decentralization process under Clark Kerr, and the expansion process under Charles Hitch. Researchers are directed to The Bancroft Library: there are extensive files in the records of the President, the vice president-business, and also of the vice president-physical planning and construction.

Germaine LaBerge
Interviewer-Editor

September 1992
Regional Oral History Office
The Bancroft Library
University of California, Berkeley

Room 486 The Bancroft Library Berkeley, California 94720

## BIOGRAPHICAL INFORMATION

(Please write clearly. Use black ink.)

Your full name Elmo Rich Morgan

Date of birth April 25, 1913 Birthplace Liberty, Idaho

Father's full name John Samuel Morgan

Occupation Farmer Birthplace Liberty, Idaho

Mother's full name Ethel May Rich

Occupation Housewife Birthplace St. Charles, Idaho

Your spouse Frances Bennion Morgan

Your children Kent B. (1940); Anthony W. (1943)
Nancy (1949)

Where did you grow up? Liberty, Idaho

Present community Walnut Creek, CA

Education Grade School--Liberty, Ida; High School--Fielding High --Paris, Ida.; BSCE--Utah State University--Logan, Utah

Occupation(s) civil engineer — then into management positions

Areas of expertise as engineer--water development & hydrology; then management of design & construction of major projects; the Vice President - Business at Univ. of Utah and Univ. of California

Other interests or activities
Boy Scout work (55-yr veteran); gardening; bird study

Organizations in which you are active
Boy Scouts of America; Friends of Botanical Garden, UC Berkeley

# I FAMILY BACKGROUND AND CHILDHOOD

[Interview 1: March 13, 1991]##[1]

## The Mormon Influence

LaBerge: Why don't we start from the beginning, with when and where you were born, and a little bit of your family background?

Morgan: All right. I was born in Liberty, Idaho, April 25, 1913. My father was born in Liberty, Idaho, and my mother in St. Charles, Idaho. They're about twelve miles apart, both in a large valley called the Bear Lake Valley, because of Bear Lake that's there. It's in southeastern Idaho.

LaBerge: Can you tell me their names?

Morgan: The names of--

LaBerge: Your parents.

Morgan: Oh, yes. My father's name was John Samuel Morgan and my mother was Ethel May Rich.

LaBerge: So your parents had always lived in Idaho?

Morgan: Yes. They were born there. Their parents, my grandparents--my great-grandparents came first to Utah and then to Idaho as the result of the Mormon missionary system. That's the Church of Jesus Christ of Latter Day Saints, which was newly organized around 1830, and they had missionaries all over, making converts. Then they were persecuted largely in Missouri and headed out across the Plains to find a new place to live where they could practice their religion as they wanted to. This was the Great

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[1] This symbol (##) indicates that a tape or a segment of a tape has begun or ended. For a guide to the tapes, see page 268.

Trek across the Plains. They ended up in what is now Salt Lake City. My great-grandparents were part of that movement and were asked to go to help colonize what became Bear Lake County.

LaBerge: So your great-grandparents were in on the original migration?

Morgan: Yes.

LaBerge: With--I can't remember the name of the leader, was it Brigham Young?

Morgan: Brigham Young, yes.

LaBerge: Did you know either your great-grandparents or your grandparents?

Morgan: I knew my mother's parents on the Rich side, I knew both of them quite well.

LaBerge: What were their names?

Morgan: Hiram and Elizabeth Rich.

LaBerge: Okay.

Morgan: I barely knew my grandmother on the Morgan side. Her name was Margaret. But my grandfather on the Morgan side died when I was one month old, so I didn't know him.

LaBerge: Do you know his name?

Morgan: It was Evan Samuel Morgan. My grandmother's name was Margaret Roberts. I barely remember her. I'm not sure when she died; I was not very old, but I do remember her.

LaBerge: Did your grandparents live near you in Idaho? When you were growing up?

Morgan: They were living in St. Charles, which is about twelve miles away, and the Morgan grandparents were right there in Liberty, Idaho, which is a very small place. [chuckles]

LaBerge: Did you see a lot of your maternal grandparents, then, growing up?

Morgan: In St. Charles, I did. And on the Morgan side, as I say, I remember my grandmother, and she was living with us, or my parents were living with her, I don't know which. So, we were close there.

LaBerge: That part of your background is very interesting, because a lot of people don't have ancestors who made the Trek, and that whole Mormon influence is an important part of your life.

Morgan: Well, my great-grandfather on my mother's side was Charles C. Rich, who was one of the twelve apostles of the early Mormon church. And Brigham Young, part of his plan to colonize the part of the country which later became Utah and Idaho, was to ask people to go to these different parts of the area and colonize them. They considered it as a duty and they never questioned it, and away they went with their family. So my great-grandfather Charles C. Rich was really the pioneer of Bear Lake. The leading pioneer. I'm not sure where my great-grandfather on the Morgan side fit into all that, but--

LaBerge: But he was somehow a part of this same--

Morgan: Colonization. And I'm not too much of a genealogist. [chuckles]

LaBerge: That's pretty good, though, to know that much. Is that how the whole missionary duty started? Because don't young people still need to give a year?

Morgan: The missionary program really started back with the founder of the church, which was Joseph Smith. And then was carried on, and this is a very important part of all the Mormon church, and it's been growing ever since. The young men go out, usually, oh, after eighteen and older, and the older people go, too. But the young people--they've usually had one or two years in college, or are the equivalent age--are sent by their families, and their way is paid entirely by the families, to spend roughly two years in the mission field.

Right now, we have two grandsons who are on a mission, one in Chile, and one in Argentina. They go to a mission training center, which is in Brigham Young University in Provo, before going out into the mission field. Since they go essentially all over the world, they have to learn at that training school whatever language of the country they're going to be sent to. So, it's a preparatory course to becoming a missionary because it's a very dedicated two years of preaching the gospel and hopefully making converts. But it's a vast system--why, I don't know how many hundreds of young men there are out now--but you have its origins back almost when the church was organized around 1830.

Then men were asked, only male missionaries to begin with, but they have both male and female now. Many more male than female. But in those early days the heads of households were asked to take leave from whatever they were doing, their jobs and their families, and go spend time abroad. In the early days, primarily in England and Wales and Scotland, the English-speaking--. And that's how my great-grandparents--great or great-great, probably great-great, some of them, came over here.

LaBerge: From England and Wales and Scotland? Is that where your--?

Morgan: Wales and England. But Scotland was also one of the early countries in which proselytizing was done. So my roots go back to the religious movement, and we have been very active in the church, not too much recently, only indirectly. Our church early became a sponsor of the Boy Scouts of America and adopted a church-wide sponsorship of troops.

So I took up scouting, or became interested in scouting, and that takes a lot of volunteer help to make it go. I've devoted my main efforts in the church toward making scouting successful. I don't know quite how you measure active participation in the church, whether it's going to meetings only on Sunday and the rest of the week forget about it, or whether you work at something all along. My philosophy is all along, and you're supposed to go to church on Sunday.

## Boy Scouting

LaBerge: While we're on the Boy Scouts, before we leave that, don't you have a title or position in the Boy Scouts?

Morgan: Yes, I do now. Well, to go back: I was a Boy Scout myself, in Liberty when I was twelve years old. They didn't advance very far because we weren't that well organized, but we used to have meetings and go on a camping trip every summer, not an organized camp; we'd just hitch up some horses and load everything in a wagon and go up some canyon and pitch camp. But I do remember those events because they were sort of highlights, which meant during that week that we were in camp we didn't have to milk the cows or do other chores. Maybe that's why I remember it. [chuckles]

But anyway, later, after we were married, living in Salt Lake City, I picked up again, as an assistant scoutmaster for a troop in Salt Lake City. Then when I went in the army, which was in November, 1940, we ended up in Fort Bliss, Texas. I became a scoutmaster there in a troop sponsored by our church. When I was transferred to Albuquerque, New Mexico, I became a scoutmaster there, again in our church; also while in Albuquerque I became an official in the northern New Mexico council, which is an organizational unit of the Boy Scouts. Later when I transferred to Los Alamos, New Mexico, I became chairman of the troop committee and a vice president of the northern New Mexico council. Also while at Los Alamos, I visited the national Boy Scout camp at what is known as the Philmont Ranch in northern New Mexico. That's a huge ranch donated by Waite Phillips of Phillips Petroleum. It's roughly 128,000 acres in a high, mountainous country of northern New Mexico. It was one of his summer estates that he just donated to the Boy Scouts.

They needed a lot of engineering work. Being an engineer, I volunteered [chuckles] and so--. I did quite a bit on water supply and waste disposal, sewage disposal, and camp layouts; it is a national camp; it is an excellent one. I've been back some since, but while living in New Mexico I spent quite a little time up there. Then, when I moved to Salt Lake City, I became chairman of the troop committee in a troop sponsored by our church. I also became vice president of the Greater Salt Lake Council, as vice president for camping.

When I came to California, I became a member of the executive board of the Mt. Diablo Council. That was in 1960, and I've been a member of that board ever since. I have been chairman of the properties committee and member of the finance committee, both council committees. That's how I get in on raising the money and then spending it. Along the way--oh, way back earlier in my army days--I became an Eagle Scout myself, along with some of the boys in my troop.

LaBerge: Well, they must have loved that, that you were doing it at the same time.

Morgan: Yes. Well, I had to motivate these young men, and I told them for every merit badge they got, I would get one also. They took me up on it and swamped me. Pretty soon I'd earned enough merit badges to become an Eagle Scout, so I did. An adult can't become an Eagle Scout now; they ruled that out.

When I was in New Mexico, I was awarded the Silver Beaver award. You don't earn it except through volunteer work; you're selected by peers. It's really a surprise. You have nothing to do with it, but it's the highest award you can get on a council level. So I have the Silver Beaver award, and Scoutmaster Key, and a whole bunch of ribbons. It's been a very rewarding experience.

I got my fifty-fifth year award last month. A "fifty-five-year veteran," they call it. But helping young people, seeing them develop and grow--and I've been associated by and large on the outdoor part of the program--to me is the key to the whole program--outdoor activities, outdoor camping. For the past, oh, fifteen years, I've been very active in helping develop the High Sierra Camps for the Mt. Diablo council. And that's what I'm still engaged in. So, yes. That's one of my main outdoor--or outside and outdoor--activities.

LaBerge: And it's really encompassed your whole life.

Morgan: It has. It's spanned my whole life, well, ever since I was twelve years old, anyway. Being in the outdoors. One of my Eagle Scouts from Salt Lake days is now in charge of the entire scouting program in the Mormon church. And he's kind enough to mention me, how I used to take him out and teach him about the birds and the bees and the flowers and other things as they occur in nature and--. [chuckles] But anyway, it's satisfying to look back on those years. Another big payoff is that our two sons are both Eagle Scouts and I've got four grandsons that are Eagle Scouts, and three more grandsons that I hope will become Eagle Scouts; they're working on it. I bribe them a little bit. I tell them I'll give each of them fifty dollars when he becomes an Eagle Scout.

LaBerge: But it's quite an accomplishment, with all the work they have to do to.

## U.C. Botanical Garden and Other Hobbies

Morgan: It is. It's a challenge, and it's good. Doing my Boy Scout work and besides the committees and the council I've already mentioned, I'm on three other ad hoc committees. Between going to all those committee meetings and then on the board of directors of the Botanical Garden here at U.C. [University of California at] Berkeley and on their project development committee--so between those two, going to meetings and working on special projects--that keeps me busy.

LaBerge: It sure does.

Morgan: Well, gardening has been another hobby of mine. I don't know that much about plants; I just love to plant things and watch them grow. But one could ask how I end up being on the board of

Berkeley, U.C. Berkeley. I think the answer is fairly simple, to me, anyway.

The last position I held before retiring--fully retiring--from the University of California was the director of facilities for the Berkeley campus, which included not only the new buildings, but the maintenance of old buildings. Thus I became well acquainted with how you get things done on the Berkeley campus in terms of building or fixing or maintaining. In that position I got acquainted with the current director of the Botanical Garden, Bob Ornduff, and helped him several times to get some things done.

Then as a result of that, which lay dormant for two or three, four years, he remembered, and I'm sure it was through his efforts, that I was invited to be on the board of directors. Because the garden needed badly to get some things done, and he knew that I knew my way around the campus, knew some people who might do it, and it's been helpful in a few instances. The campus politics are really something. And if you know whom to see and how to play it, it helps a bit. So, I think that's why I'm associated with the Botanical Garden. But again, it's a very pleasant assignment, and some wonderful people, and it's fun. That's a long way from Liberty, Idaho.

## Farm Chores in Liberty, Idaho

LaBerge: But that's okay. We'll go back to Liberty, Idaho. When you're remembering that, and when we got into the Boy Scouts, that's the time to talk about it. So, let's go back to Liberty, Idaho, and what it was like to grow up there, what your family life was like, whether you had brothers and sisters.

Morgan: Yes, I'm the third of eight children, six of whom are still living. I was the first boy, the third child. And we lived on a farm, general farm. We had milk cows and sheep and chickens and pigs, but it wasn't a cattle ranch.

Bear Lake is notorious for its long, cold winters. Very often in the wintertime it will get between thirty and forty below zero. And we used to get a lot of deep snow and high winds and drifts.

Of course, initially, we had no electricity. We got that, oh, I don't know what year, I was still in grade school, about the end of my grade school. We had no running water. We had a well, a nearby well. No indoor plumbing at all. Getting out of bed, especially in winter to go down to do chores before going to school, ice-cold weather, ice-cold house, there was no central heating. Right now, I look back, I don't think I could take it now, but then, we took it. Had to. So we were busy all the time, getting chores done.

LaBerge: What were some of your chores?

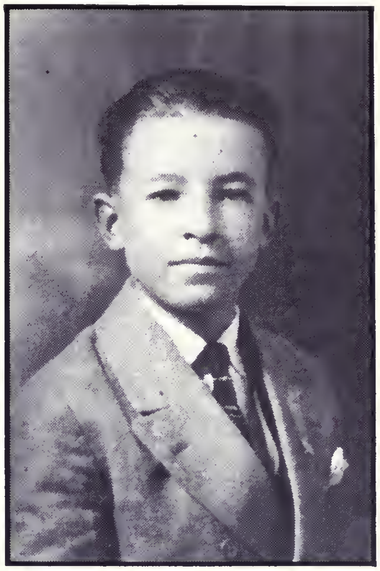
Morgan: Oh, feeding the chickens and gathering eggs, and taking care of the pigs, feeding the pigs. When I got older, and again, I don't remember how old, I had to learn to milk, so then I'd have to help father milk the cows. And then there were always cattle to feed and we had workhorses, no tractors then. So I had the horses to feed. And then, of course, when it came time in the spring--that was around June--we had to get into preparing for crops, preparing land, planting the crops.

One of my chores was to get on my pony and go wrangle the horses. They were always turned out at night, up in the nearby hills, to pasture. They'd have to be brought in every morning, to be harnessed to go to work. And my job, before I was old enough to do most of the planting, was to go get the horses. For some reason, by the time I came to get them, they'd be the farthest away they could be in the pasture, so it meant a good half hour to forty-five minutes of riding bareback on my pony to go get the horses.

LaBerge: How would you gather them in, to make them come?

Morgan: Oh, you just get behind them and holler and whistle and get them headed down the trail you wanted to, and keep crowding them. They'd go on pretty well. But they were uncanny at being the farthest away they could. Very seldom would they be close in. Then I'd have to drive the cows to pasture. These pastures were fenced so that the animals could not get into the hayfields.

We had to raise all of our own food for the animals--the alfalfa and timothy and other wild hay. So I'd have to take the cows to pasture, and then I'd have to take the sheep to another pasture. So it was just running a lot of errands. I remember specifically when I would have to take the sheep to the pasture in the morning, and then bring them back to a corral at night, because if you left them out in the pasture up in the mountains or hills, the coyotes would get them. So we'd have to bring them back every night.



Top left: Morgan farmhouse in Liberty, Idaho, 1920

Top right: Elmo Morgan, 1926

Left: Young Elmo with cousin Gwen Linford in Liberty, Idaho, 1920

## Total Eclipse

Morgan: Well, one day it was in the afternoon but it started getting dark and darker and darker, so my mother told my sister and me, we'd better go get the sheep and all the while it was getting dark. So we went--it was about a mile up to the sheep pasture and back--and had just got the sheep down to the corral, it was almost pitch-dark. Then after a while it started getting lighter again. It turned out--

##

LaBerge: You were talking about the total eclipse.

Morgan: The total eclipse of the sun. I don't remember what year it was, but I would judge I was about eight or ten years old. So when it got broad daylight again, we had to take the sheep back to pasture. [chuckles] But my sister and I well remember that experience. It really got dark. And you read about that now, a total eclipse, and people travel halfway around the world to see a total eclipse. No sunlight, no moon or anything else. It was just dark.

So then as I got older, of course, we became involved in the actual planting and harvesting.

## Crops and Chickens

LaBerge: What crops did you grow?

Morgan: Oh, we grew hay for the animals--oats, barley, wheat, and then alfalfa was the general category of hay. Then for quite a few years we grew sugar beets. The main reason for that is they did very well in that climate. They matured well and they were good cash crop. But there was a lot of thinning and irrigating of the beets, and harvesting of the beets; it was heavy work. Part of father's farm was irrigated, maybe a third of it; two-thirds of it was dry farm. And the dry farm of course was just pasture and wheat. It was all dry farm wheat. But the water was from two different creeks that have their origin further back in the mountains than where the farms were located. There was a good water supply, also, good swimming holes in those creeks.

Then we had quite a few chickens. We used to get the chickens from a hatchery somewhere, a thousand or more at a time.

They would come by freight in special boxes. Then you had to build or fix up a special brooder house to keep them warm.

LaBerge: What, a brooder?

Morgan: Brooder. Naturally the mother hen takes care of her baby chicks by getting them all snuggled under her and provides the warmth, but when you get two thousand young chicks with no mother, you have to fix up a special house to keep them warm. The law of nature dictates that about half of the baby chicks you get are going to be roosters. You don't need any roosters. So when they get up to be a certain age, you try to fatten them up, and you kill the roosters and dress them and sell them on the market. Your keep the hens to lay eggs. Of course, that's all gone by the board now because this mass production in great big chicken farms around the country, and big companies--they do them mechanically by the millions.

Selling the chickens and then selling the eggs was a cash income that kept us going to buy food, clothes, etc. and to pay the taxes. Mother, her area and her income that she had, largely came from the chickens. So, naturally, she was interested in the chickens and later, the eggs.

Catching those roosters and maybe we'd do a hundred of them a day, you'd have to catch them and chop off their heads and scald them to pluck off the feathers and clean them off. I guess that's why chicken is not high on my list of things to order from a menu. [chuckles] My wife loves chicken and I like it, but that's not my first choice.

LaBerge: I see. You spent too much time with the chickens.

Morgan: I spent too much time killing them and cleaning them and feeding them. Then we would butcher some of the hogs for our own meat, and the same with veal or calves. With the pork, we would cure our own pork for ham and grind up our own pork meat for sausage, that was all done by hand. There simply wasn't much money, so you had to be self-supporting, and it largely worked. Milk and cream, all the grains. We'd grind up the grain for flour and for cereal. Never heard of corn flakes until we were quite a bit older. But we were healthy and lived reasonably well.

LaBerge: And everybody helped out; everyone had jobs to do.

Morgan: Well, everybody has to, why sure. When it came to putting up the hay, I remember the machines were horse-drawn, of course, now they're powered by tractor. To drive the horses--sit on the mowing machine--my legs weren't long enough to reach the bar, the axles. Got bounced off a few times. Then mow the hay and rake it and then have a stacker--some were derricks and some were stackers, hay stackers.

LaBerge: What's the other word, a "derrick?"

Morgan: Yes, a d-e-r-r-i-c-k.

LaBerge: Okay. And what's that?

Morgan: Well, that was a big tripod, with a long pole on it and a rope that had pulleys on and the rope would go up the end of the pole and then drop down with a huge fork on it. Something like a clam shell, actually. And you'd have a big pile of hay and you'd drop this fork on it and close the fork. Then with a team on the other end of this rope that ran through a set of pulleys, you'd drive them out and it'd raise this big clamshell full of hay and you'd swing it around and drop it over on top of the stack you were building.

A stacker was a little bit different, the same idea. You had to take the hay and put it into a stack so that it would be preserved and--it'd had to dry first--to be preserved for wintering, because you have to feed the animals all through the winter. The hay that you stacked in the summertime in the stacks maybe 30 feet wide and 50 feet long, oh, I don't know, 25 feet high, you'd go down and load your sleigh up with hay from the stack, and throw it out on the field for the animals to eat. That's the way you got through the winter.

But anyway, at an early age, I had to drive the horses at the other end of a rope to pull up the hay on the derrick or stacker. Then as I grew older I got onto the mowing machine and, thank goodness, graduated to other tasks. The man that has to stack the hay and build the stack up--that's really tough work. I just got into that a little bit when I was about old enough to go to college, but that's a backbreaker. So haying time was always a big annual event--early July to mid-August. Very hard work. Early morning getting up at 4:00, 4:30 in the morning to get all the horses rounded up and have breakfast, then harness the horses and get out in the fields.

## Communal Threshing Project

Morgan: And another big event was harvesting the grain, that was later in the fall. Again, then it was horse-drawn but now they're all diesel-powered. And that's a lot like you'd see in the field today. They call them "headers," "harvesters." They'd all cut the grain off and on to a moving canvass on rollers to bring it up and into what was called a "header box," a big box on a horse-drawn wagon. With this grain, not the threshed grain, but the cut grain and straw, the heads of grain would all go into this box and you'd take that to a central place and stack it. Then later on a threshing machine that would move around the valley would come and set up the threshing machine by the side of these stacks. It had a big steam engine fired by coal, and that I distinctly remember I had to stoke the boiler on one of those threshing machines because that produced the steam that turned the wheel that turned the big belt that ran the thresher.

You would then pitch the grain, which you'd stacked earlier in the season into this thresher, and it went through the big machine that separated the straw from the heads and the wheat from the chaff; the wheat would come out on one side and the straw would be blown out the other way. But now there are--you see pictures of them--the combine harvesters, where you harvest and thresh in one operation in the fields. You drive a tractor or truck along the side of the harvester and the wheat goes into a big bin mounted on the truck and you take that off to market. But there wasn't that much luxury in my day. So, harvesting of the grain and especially the threshing would be a lot of hard work, and the schools would let out for that in order that young men would be available to help.

LaBerge: I wondered about that. Like, how long, for a couple weeks?

Morgan: About two weeks, schools would let out. The high schools; the grade schools wouldn't, because they're too young. And also for the sugar beet harvest, which was a lot of hand labor then; it isn't now. It would let out about a week for sugar beet harvest.

LaBerge: And when was that?

Morgan: That was in the fall of the year, a little bit earlier than the harvesting or the threshing of the grain. With the grain, when the thresher would come--this is a wonderful memory that doesn't exist anymore--all the neighbors would help each other. And my father--we had a hired man at that time, and I became a part of were expected to come and reciprocate. Now in addition to that there was a crew of two or three that belonged with the person or company who owned the thresher. One man who oversaw the whole operation operated the big steam engine as well as the thresher itself. Then the crew of neighbors, including the ones who had to feed the stacked grain from the stacks into the conveyors going into the machine and take care of the grain coming out and hauling it away to the granary, did the heavy work. Probably it would average around twelve, thirteen, fourteen men.

And the custom was, the farmer whose place they were threshing had to feed the whole bunch, beginning with breakfast in the morning way before daylight--then lunch and finally dinner after dark. So I remember those days very well, and again, the neighbors would pitch in. The wives, the women, would pitch in neighbor to neighbor and help with the feeding, just like the men would pitch in on the threshing itself. So it was quite a communal, not exactly a community, but a communal project. Those are very memorable days.

LaBerge: Oh, I bet they are. You see some of that in movies--these big harvest parties--and it looks like fun, but from what you're saying it was a lot of hard work.

Morgan: Especially if you get an historical movie you see it, but with the machines they have now and the thousands of acres it's so mechanized. I'm not sure, they mechanize the human feeding or not? [chuckles] But there was a lot of food consumed, I'll tell you, because it was an annual ritual.

LaBerge: Did the girls help with the food? Did they do any of the farm work?

Morgan: No, well, very little with the farm work, but they certainly helped with the food, especially at harvest time.

I remember my sister helping me and then sometimes driving the team of horses that pulled the hay up and down on the derrick or on the stacker. But they didn't get into any of the--at least in our family or in our little village there--into the actual planting or harvesting of crops or anything like that.

## Elementary School in Liberty, Idaho

LaBerge: Why don't you tell me a little bit about your school, starting with elementary school?

Morgan: Well, in Liberty, as with most little towns around there, we had a schoolhouse, a wooden schoolhouse, divided into two large rooms. The first four grades were taught in one of those rooms and the second four grades in the other side. Within the room we would be lined up, starting with the low grade on one side, 1,2,3,4, and then 5,6,7,8, on the other one. If you were smart enough, and wanted to, you could listen to the teacher with each of those classes. That wasn't much of a problem, I assure you.

LaBerge: So, one teacher for each room?

Morgan: One teacher in each room. The teacher taught four classes. I remember--well, fortunately, I had good teachers. I remember how strict the teacher in the "upper grades" was, but how nice she was. We were kids, as kids are, and giggled and pulled the girls' hair and did other things, but I remember getting--you had to hold out your hand--slapped on the hand with a ruler. I got in my share of fights with other kids during recess and lunch hour.

LaBerge: So you took your lunch to school; you didn't go back home?

Morgan: No, we lived a mile from school; no, we took our lunch. I remember in the spring of the year there was a nice, cold spring oh, within a block of the schoolhouse. It had wonderful watercress and not all the students, but a lot of us, when the watercress would come in the spring of the year would bring a salt shaker and go get some fresh watercress and eat part of our lunch there. I remember that distinctly. And we'd get the usual snowball fights, but I don't remember anything other than in the winter it was terribly cold getting to school on the most blizzard days. My next oldest sister had some health problems early on, so she and I ended up in the same class--we were only about a year and a half apart, through most of grade school, but all of high school.

LaBerge: What was her name?

Morgan: Beulah. Father would put us on an old pony and we'd ride to school. There was a place to tie him up, or sometimes--not all ponies would do this--we would just tie the reins up and head the pony toward home, and they'd go home. Those times when he wouldn't, we'd just tie him up and he'd have to stand there and wait for us all day [chuckles] to go home. But that was just during some of the worst blizzards. We'd really have some awful blizzards and the cold together with the windchill factors became well known as "Bear Lake blizzards." Windchill factors weren't much talked about then, but they were certainly known. You get a temperature that's forty below and get a windchill factor--it's easy to go sixty, seventy below--freezes you. We used to get cold feet and would end up with chilblains, frosted feet and fingers cold and noses nipped. I've known frost to kill vegetables growing in the garden every month of the year at Bear Lake. Fourth of July, one time, I remember the potatoes and beans in the yard getting frozen. And then it starts freezing again at the end of August, so we had pretty short summers up there. That's probably why I never wanted to go back.

LaBerge: I can really understand that.

Morgan: That's about all the grade school I remember.

## Move to Paris, Idaho for High School

LaBerge: What about high school?

Morgan: I went to Paris, Idaho. That was the nearest high school. Montpelier had a high school and Paris did, but we were in the Paris district, and it was called Fielding High School.

LaBerge: How far away was that?

Morgan: It was about eight miles. Too far to commute every day, so we would rent a house or part of house in Paris. The first year my sister and I batched it; we kept house ourselves in an apartment.

LaBerge: Just the kids?

Morgan: Yes. We'd take food from home, but then we had to prepare it, and I must admit, my sister did most of the cooking.

LaBerge: Was this Beulah, also?

Morgan: Beulah. But I became quite efficient at washing dishes. That's my specialty even now.

LaBerge: Now, what about the other kids in your family? There wasn't anybody else in high school at that time?

Morgan: No, no.

LaBerge: And then later, did the other kids do the same thing?

Morgan: Yes, they were coming along. We did that for two years, then after that another one came along into high school. So, my mother and the whole family, except father, moved to Paris. We rented the whole house then, for my last two years in high school. Left father on the farm alone to take care of the animals. So the whole family would move over to Paris during the school year, and the younger ones went to the elementary schools over there. I should add that by the time we got to high school, our oldest sister, Thelma, had died from peritonitis following an appendectomy. That's before the days of any penicillin or any of the drugs. It wouldn't happen now, but it did then. So, the oldest one was not living, and so my sister Beulah and I were the two that went together.

After I completed one full year at the old high school that had existed many years, it burned down during the summer. When I went back for the sophomore year we were in buildings all around town. I mean bank buildings, unused offices and old grocery stores that they fitted up to take care of all the classes while the new high school was being built. Then we finished up in the new high school. I had a good introduction to nature--there was a biology teacher, a good one. I'm not quite sure how he did it, but he interested the group of us in nature. We'd go on field trips and look for bugs and birds and snakes and everything else. He'd explain them in such a way that it was most interesting.

LaBerge: What was his name? Do you remember?

Morgan: Lynn Hayward. Well, that's what got me interested and what became a hobby--nature in general. Anyway, it took, stuck. I got into debating some and then I was elected president of the student body my senior year. Graduated in 1930.

LaBerge: Right during the Depression.

## Prize Heifer

Morgan: Yes. Then came the question of going to college. I was really undecided because of the lack of money. We made a living on the farm, but you couldn't accumulate any cash. My last two years in high school I guess my father was trying to interest me in farming. Your parents try to provide some incentive or interest for their children, I'm sure. But he gave me a heifer, well, it was a calf when he gave it to me. We had Holstein cattle, and he gave me a young calf, which, of course, grew to be a heifer and eventually a cow. He encouraged me to take good care of this calf and heifer. I entered it into judging contests there. Each year we'd have a county fair and then a southeastern Idaho fair, which is at Blackfoot, Idaho.

LaBerge: Blackfoot?

Morgan: Blackfoot. So I used to go to the county fairs. And then when my prize possession became of age, I took her to the fair and she'd keep winning prizes for me.

LaBerge: What was her name?

Morgan: Oh, I didn't have a name [for her]. So, anyway, after my senior year in high school, the county fairs would come after school was out, of course, during the summertime. My heifer took the grand champion prize for the county. So that made me eligible to go to Blackfoot, Idaho, and take her up there, which I did. And she won first prize up there. So I had a very valuable heifer ready to become a cow.

LaBerge: What was the judging on?

Morgan: Oh, the general shape and the width across the hips and the whole carriage and how well you'd groom them. I really groomed her. I just didn't see how my folks were going to get the money to send me to college. So I reasoned, and we were taking farm publications then and I'd read those a lot--how to organize things and how to keep books on the farm, that I would stay on the farm and eventually be the manager for my father.

[tape break]

LaBerge: Okay. We were talking about reading farm publications.

Morgan: I decided that, well, "I won't go to college, I'll only take--"

## Family Value of Education##

LaBerge: Why don't you repeat what you were saying about reading the farm publications?

Morgan: Reading the farm publications and learning how you manage farms and how you kept records, especially how you kept books--income and expenses, and hopefully to make a profit. It intrigued me. In my own mind I had decided that I was going to forget about college for the time being at least and set my sights on becoming the manager of father's farm. So about midsummer, with time growing shorter about a decision to go to college, father had tried to get a loan for a hundred dollars. He couldn't get a loan even for fifty dollars because of the Depression and those who had money wouldn't even take your ranch for it. So I remember telling father and mother together at one time what my plans were. I very vividly remember that they listened intently and when I was through, neither of them would have anything to do with it. They said, "Nothing doing." [chuckles] But, if after I went to college and got a degree, if I still wanted to come back and manage the farm, that would be fine, but they would not listen to my staying around to be a farmer without an education. My mother had a teaching certificate from college. My father never went beyond high school.

LaBerge: Where did your mother go to school?

Morgan: In Logan [Utah] at what was then the Brigham Young College. She got a teaching certificate. I'm not sure that she ever taught, but rather she got married. But, anyway, they were both extremely interested that the children get an education. I must say, my mother was really the pusher.

LaBerge: So obvious, just from the fact that you went and rented a house to go to high school. I mean, was that unusual, or did other people do that too?

Morgan: Well, there was some, not too much. I'm not sure how many graduates there were in our grade school. Maybe eight or ten, I guess. I don't think they all went to high school, but some of them did. I don't know--they were only about four of us that graduated from high school, from Liberty.

LaBerge: But education was a real value in your family--

Morgan: Oh, yes.

LaBerge: --and to move out and leave your father alone on the farm.

Morgan: I didn't realize how strongly my parents felt about it. The occasion hadn't come up to my asking to find out about it, I guess. But I found out how very strongly then. So we discussed it, and the outcome was that I ended up selling my prize cow.

LaBerge: Did you get a cash prize at any of the fairs? What was the prize?

Morgan: Oh, no, just ribbons. I didn't get any cash. So my mother had been saving a little money from the eggs and chickens and I sold my prize cow for a hundred ten dollars, I remember.

LaBerge: Was that difficult to do?

Morgan: Well, she had such a record. She was well known, not by name, but by reputation, because the county fairs were big things. One who went to the southeastern Idaho district and won, they did even better. So, I don't recall any great difficulty of selling the cow. There was a farmer-rancher down in the nearby town that had been more successful or had more income--at least he was able to come up with the cash.

## II COLLEGE AND EARLY WORK EXPERIENCES, 1930-1940

### Utah Agricultural College

Morgan: So with my hundred ten dollars I started my college at what was then the Utah Agricultural College in Logan, Utah.

LaBerge: How far away was that from Liberty?

Morgan: It was over the mountain by road. The way to get there by road was about eighty-five miles. Logan is near the northern border of Utah, almost joining Idaho, so a lot of the students going there were from Idaho. I guess one of the reasons I went there was because it was near. There were some two-year colleges in Idaho, one particularly at Pocatello. But that never appealed to me. Maybe one of the reasons was a fellow--a neighbor, almost a neighbor in Liberty, he lived away two miles, but it was still part of Liberty--was then going to, or had been to Logan going to school. He was home for the summer and he was also the village barber. I used to go up to his place to get my hair cut. Sit on a stool and have an apron on, and then he'd get his hand clippers and clip my hair. But I learned about school at Logan, as told to me by my barber.

And secondly, during the harvest season, father would hire someone--a hired hand, to help during the harvest season--there was just more work than we could do. Incidentally, my barber's name was Raymond Wood. And this hired hand was named Ephraim Miller, also from the next little village. And he had been down there, too--to Logan, that is. So he also talked to me about going to Logan. Anyway, I went and found a place to room in the basement of a house up near the college, and a place to board was next door. Then I also found a part-time job, all somewhat aided by this Ephraim Miller. But my roommate where we lived in the basement--we were in a private home, in the basement--there was a fellow, whose name was Arthur Erekson from Murray, Utah, near Salt Lake. He was an older person, and he was up there doing graduate work in dairy manufacturing. It happened that he had a room next to mine in the basement. We became very good friends and have remained lifelong friends. He had quite an influence on my schooling and encouraged me to stick with it. He later became a vice president of Borden Company.

The owner of the place where we lived was a German couple who had a sausage factory out in their backyard. That's how they made their living. But being a German couple, they also made sauerkraut each year, with the sauerkraut aging in a barrel just outside our room where we lived. I think I can describe the process, but I'm sure it wouldn't be very enlightening. I couldn't capture the fragrance that went with it. [chuckles]

Anyway, I enrolled in engineering. I had visions of being an electrical engineer and working in a power plant. I visited power plants early in my life and became quite impressed with the man or men who ran these power plants. It was quite a prestigious job as far as I was concerned.

## Engineering Major

LaBerge: How did you get interested in engineering? I mean, how did you know that was what you wanted to do?

Morgan: I guess in the way I just described, electrical engineering. I'd always liked math pretty well. And physics, in high school I took a liking to physics. So I just--. "Engineer" sounded big, so I enrolled in engineering, and boy, I had no idea what I was getting into. Engineering is a tough course, then and now. And I got loaded up with the engineering classes; it's a prescribed course, very heavy course--averaged eighteen credit hours a quarter. I became mighty discouraged. The long hours, school all day long and studying every night, either at home or at the library. I'd see some of my colleagues that had registered in business or just general education, having two or three hours off in the afternoon.

Besides the studying, I got a job, I guess it's my family background, over in the animal husbandry department. They had a animal pathology laboratory there, and I'm not sure how I was introduced, but part of the laboratory work was to follow the feeding and the other aspects of four or five different cattle out on a place, on a farm about a mile north of the campus. They were following [them] in a rather scientific way as to their feed and their growth and would take blood samples--I didn't know what all they were doing. I certainly wasn't into that. My part-time job was to walk out to this farm and milk them every morning; in winter it got pretty cold. But between that--I was getting twenty-five cents an hour then--but between that and this course in engineering, I had no idea what I was getting into. Got me pretty discouraged. I was ready to go back to the farm. But most of all, I was ready to get out of engineering and get into something easier. And I'd pretty much come to this conclusion.

This Ephraim Miller that I spoke of earlier, father's hired hand, was still going to school down there. Oh, I wasn't living with him, but I would see him occasionally. I told him of my plan. He was majoring in physics, as I remember. I told him of my plan to shift out of engineering into something easier. I didn't get much sympathy from him, and I've thanked him ever since. He looked me straight in the eye and he said, "So you're a sissy. You can't take it. I'm really disappointed in you. I thought you had more guts than that. You run up against a hard subject and you just can't tackle it. Now you're just going to run away from it, are you?" He got me mad. [chuckles] I didn't tell him at the time, but I decided then and there I was going to stick it out just to show him. So I guess he was really a turning point for me, because I stuck with engineering.

LaBerge: Was this your freshman year?

Morgan: That was my freshman year. Then, after that, I was just determined whatever it took I was going do it. Because he had another year after that, and I didn't want to face him if I were to change from engineering. Then this Arthur Erekson that I was rooming with gave me a lot of encouragement, telling me about his earlier schooling and what he was doing. He was doing some research work in dairy products. Being in dairy manufacturing, he would bring home samples of cheeses and milk and ice cream and other goodies, which helped keeping us fed.

LaBerge: I guess so. [chuckles]

Morgan: But anyway, he helped me some, too. Later, when they got rid of the cows, I didn't have to walk out there anymore. Then they put me to work in the laboratory washing the dishes, the culture dishes and mixing up culture and so forth. Then also, one year my mother--it was my second or third year--my mother moved down to Logan, brought all the family down there. We rented an apartment in a house. So that made life a little easier.

LaBerge: So then you just lived with your family.

Morgan: I lived with my family.

LaBerge: Why did she do that? For schooling also?

Morgan: Yes. Well, it must have been the third year, because we had one more coming to college, that made three of us. So she brought the rest of the family down. So we would go up to the farm quite often and bring produce down. In the winter it was cold enough that you didn't need a refrigerator, it'd just keep. Put it on the back porch, it'd freeze. So she came down, then--

LaBerge: She sounds like a real independent--

Morgan: She was, she was.

LaBerge: --almost New Age woman.

Morgan: She was. She was certainly not assertive in any way, but she wanted to make sure that her children got an education. And then the last year my two sisters and I rented a downstairs apartment and batched it again.

## Campus Politics and College Jobs

Morgan: I got mixed up in campus politics. I didn't belong to a fraternity. I was invited to belong to a fraternity, but simply couldn't afford it. So the non-fraternity organization was called "The Barbs," b-a-r-b, Barb organization. I don't know where they got my name. They decided the non-fraternity people should begin to have a say in the campus politics, so they ran me as a dark horse for student body president. And that particular year the fraternities got in a knock-down, drag-out fight themselves and split the vote so much that I got elected student body president. [chuckles] Which meant I had to spend more time away from the engineering courses that I could take, and I couldn't graduate in four years. I knew then I was going to have to take five years, so I began to take courses other than engineering. These courses proved to be of extreme value to me later on, especially accounting and report writing and additional English, sentence-structure diagramming. And typewriting--I took typewriting. So I took five years to graduate.

I guess it was coming into my junior year, the people in animal husbandry wondered why in the world they had an engineering student doing work over in their department when they had so many of their own students that needed work. So, I had to find me another job, which I did, over in engineering. Working in the summertime, I never went back to the farm during the

Student body president at Utah State University, 1934

summer vacations, I kept on working on the campus. I found a job in soil physics and water flow conductivity and it was in my major, which was good for me; it turned out to be good, but it kept me--

LaBerge: Good experience.

Morgan: Yes, it was good. In fact, I ended up writing a thesis on some of the work I was doing in those summer months, which was trying to measure the water conductivity through artesian aquifers that are all through the valley up there where the college is. I became a joint author with my major professor on the water conductivity of aquifers using mathematics and equations I can't even read now. But it turned out to be a very good thing. Also a major professor who later became dean of engineering, later became governor of the state of Utah.

LaBerge: That's right. What was his name?

Morgan: George D. Clyde. That will tie in later, he was a great help--

LaBerge: Was he the person you worked on the report with?

Morgan: No, the one I wrote the report with was O. W. Israelsen, who was totally deaf. That was one of my jobs, that I came into. He was really world-renowned for his work in irrigation principles and practices. And that was the major I chose. But he became totally deaf at age forty through spinal meningitis. He needed someone with him all the time to write to him and listen to what people were saying and write notes so that he could understand it. I became his scribe [chuckles], his aide, and learned a special shorthand, not shorthand like maybe others but he had developed it with my predecessors-- "hv" for "have" and just a "u" instead of spelling "you." There were all kinds of shortcuts. So I'd travel with him and go to meetings with him and he paid me for it. So, that's how I shifted, completely shifted, from farming to engineering. So let's see, where does that bring us?

LaBerge: That brings us--while we're talking about that--are there other people besides George Clyde and O. W. Israelsen who were influential? Other teachers, your other classes that you took?

Morgan: Oh, I remember some professors more than others, but--.

LaBerge: But, not like a turning point that you've mentioned, or like your friends who influenced you.

Morgan: No, those were the two major ones. I'll have to think, I don't recall any major instances. But they were the two primary ones. Along with the two other people who I'd met and helped me a lot.

## ROTC

LaBerge: How about ROTC [Reserve Officers Training Corps]? Is that when you started that?

Morgan: Oh, yes. Of course, UAC was a land grant college, and ROTC was being taught there. The first two years, we all had to take ROTC whether we wanted to or not.

LaBerge: Oh, really? It was a requirement.

Morgan: It was a requirement, we didn't have any choice--the men. Again, because of financial circumstances, I had to take every opportunity I could to earn money. I even got in the National Guard for a little while to earn a little money, but that didn't appeal to me, so I decided that I would apply for advanced ROTC. Being an engineer--they were quite partial to engineers it seems--I was accepted, and so I did two years of advanced ROTC, and ended up with a commission as a second lieutenant in the coast artillery. That's the only branch of the service that they had at that time.

LaBerge: The two years--like your junior and senior year?

Morgan: Yes. I was commissioned on June 1, 1934. And then of course my fifth year back there I did not--. But we were paid nine dollars a month, I think it was, in advanced ROTC, which is twenty-seven dollars a quarter, which was just about enough to pay for tuition then.

LaBerge: So what did you have to do for that? I mean, did you have to go on weekends?

Morgan: Take classes and go to summer camp. That was, I guess, my first trip to California then, because we came down to Fort Baker out here in Marin County, right out on the ocean. So that income was very much needed, very much appreciated. Of course, advanced ROTC ran all the drills and so forth for all the undergraduates. It was interesting. I was never much of a military man, but I had a good ole' sergeant who was good to me, as well as two or three regular officers, they were all good.

While I was an out-of-state student, they didn't police too much the collection of out-of-state tuition fees. I soon learned how you could get around it, and I became very good friends with the-then treasurer of the college, and all he had to do was, he'd just write me a note that it was okay. I never did have to pay out-of-state tuition. In-state tuition, I don't remember exactly, but it was something like twenty-five dollars a quarter. Of course I became quite well acquainted with the president of the college, whose son was just--oh, I don't know, just five or six years old then, but who is now the president of the University of Utah.

LaBerge: Oh, and his name is?

Morgan: Well, the father's name was Elmer G. Peterson and the son's name, who is now the president of the University of Utah, is Chase Peterson. Our second son is one of Chase Peterson's vice presidents at the University of Utah now, so that's a family circle.

LaBerge: Yes. Now, how would you get to know the president of the college? Did he know everybody?

Morgan: No, I was student body president.

LaBerge: Oh, that's right.

Morgan: I'd met him, of course, before, but it wasn't until I became the president of the student body that I had frequent meetings with him. [chuckles] I'd go over to his house quite a bit and that's how I became well acquainted with his family and in fact, I had a few dates with one of his daughters.

LaBerge: So you graduated in 1935, from school?

Morgan: Yes, yes. I should have graduated in '34, but--.

LaBerge: Well, the experience, the extra experience you had sounded well worth it.

## Pure Engineering

Morgan: Oh, yes, especially later in my professional life. I started out as an engineer. The army interrupted that, and after that I--well, during the army days and entirely after that I was what they call an administrative engineer--a paper pusher.

##

LaBerge: You were just saying that you became an administrative engineer.

Morgan: Yes. I started out as a "pure engineer" quote, unquote, being an engineer in water supply--as an assistant in Utah's State Engineer's office for water supply and water rights. But then the call to duty from the army interrupted that, and about halfway through my army career I got strongly into administration and faded out of the technical engineering. After my army, my whole career was bent on the administrative side, so what I was saying is that it would be a little farfetched to say that my administrative interest and career in administration got started with the student body president, but it certainly fit into it. During my summer job between when I should have graduated and when I did graduate, I was an engineer on a special assignment in Salt Lake Valley, and that is how I met my wife. We'll continue that in a later chapter. [chuckles]

LaBerge: Next time? Okay. That would be a good place to stop now and to start next time.

## Installation of Indoor Plumbing in Liberty

[Interview 2: March 19, 1991]##

Morgan: Do you want me to start by picking up with the plumbing business back in the high school days?

LaBerge: When we were leaving last time you were telling me a story about how your house first got its indoor plumbing. But we don't have it on tape, so maybe you could repeat that.

Morgan: [chuckles] Well, the saying is that--what?--, "Necessity is the mother of invention." On the ranch, our water was from a well; you went outside and pumped the well, which was not bad ordinarily, but in wintertime, when it was well below zero and snow, it was a cold trip. To mention nothing of the bathroom facilities, which was even farther away from the house and equally cold to get to. So sometime when I was a senior in high school, I remember reading in the farm journal, the name of which I can't recall. But anyway, indoor plumbing installations, or rather, how to install them--and it didn't look all that complicated to me. With the Sears and Roebuck catalogue, I found all the parts that I needed, including the pump and pressure tank.

With my folks' approval I sent to Sears and Roebuck. I sent to get the pump and the pressure tank and all the fittings, and then when spring arrived in 1930 it was somewhat decent to start digging a trench and putting it in, I went to the plumbing houses in Paris, Idaho, to get the pipe itself and all the fittings. By the time I graduated from high school I had installed the system in the basement of the house, that is, the pump and the pressure tank, and had the pipe laid out to the well, and pipe down into the well with the foot strainer on it, and one faucet in the kitchen. It was really a thrill when we'd finally turned it on and it all worked, and we got a bucket full of water in the kitchen without going out to the well to pump it.

Then I went off to school in Logan that fall, and didn't return except for visits. My younger brother, Wayne, who was coming along--who was actually more mechanically inclined than I--he took on the task of installing the bathroom--expanding and making a closet into the bathroom and installing the tub, the washbasin, the commode and a septic tank. But the pump and the pressure tank and all that I had installed was big enough to handle the whole thing, so the house got converted from a purely farm layout to a modern house.

LaBerge: Were you one of the first in your area to have that?

Morgan: I think we were. I don't know; I'm quite sure we were, because I remember some neighbors coming to see it and turning on the faucet to make sure it would work to believe it. [chuckles] Years before that, not too many years before that, we didn't have any electricity. But in the meantime, or, prior to my plumbing adventure, they had a power line completed up through those small towns and so the power was available. But it wasn't too many years before that; it wouldn't have been possible to have any indoor plumbing. So that was the beginning of my engineering career.

LaBerge: This was before, really, you knew you were going to go into engineering, too.

Morgan: Yes. Yes. I knew I was going to--well, I thought I was going to go to college, but I hadn't decided on engineering. But I think we talked about that the other day.

## Meeting Frances Bennion, 1934, and Marriage, 1937

LaBerge: And how you chose that. Well, then, when we ended, you were just about to tell me the story of a summer job and how you met your wife.

Morgan: Oh. Well, I should have graduated from college in 1934, but because I became involved with campus politics I ended up a student body president; I had to take an extra year to complete all of the required courses for an engineering degree. I actually had to come back and finish up in 1935, which I did.

In 1934, there was a severe drought in Utah, and I'm sure in the western part of the country as a whole. The state engineer of the state of Utah and the Salt Lake City engineer jointly applied for and received a federal grant to help study the drought conditions and to see how water could be used more effectively. The whole Salt Lake Valley--at least I should say a major portion of the Salt Lake Valley--is irrigated by water that flows from Utah Lake into the Jordan River. The river flows on down into Great Salt Lake.

But there are a number of canals that divert water from the Jordan River, on both the east side and the west side of the river, that irrigates thousands of acres of land. So this grant that was approved required engineers to survey all of the irrigated areas under each of the canals and to determine how the water was diverted and used and what the administration of each of the canal companies was and how it might be improved. I was one of four engineers that--the other three being classmates of mine--were hired to do this survey in the summer of 1934.

LaBerge: Even though you hadn't graduated.

Morgan: The others had. They were normal students [chuckles]; they weren't politicians, so the others that graduated--I was in the same class, but I had to go back and finish up. Anyway, the four of us went down to Salt Lake to take up our duties, and we needed some place to stay. And we wanted to get located out in the valley where our work was, rather than try and find a place in Salt Lake City itself and travel out to our place of work.

I'm not sure how we learned of the place, but anyway, we found a place for room and board out in a little town in the valley called Taylorsville. There was a lady with a young family, who was recently widowed and needed some outside income to support her young family. Her husband had recently died. Her name was Mamie Lindsay. She had just enough room for the four of

Frances Bennion Morgan and Elmo Morgan on their wedding day, 1937

us, so we took up residence there, and she turned out to be a most wonderful person, with a great young family. But she also turned out to be the aunt of my future wife.

But anyway, as the summer went on, she treated all of us as her sons, really. For some reason she took a liking to me--extra liking--and in her own mind, at least, "tagged" me for getting acquainted with, and maybe in her own her mind as a future husband for, one of her favorite nieces by the name of Frances Bennion. The Bennion family would come out to Taylorsville to visit relatives fairly often, I guess. On one such occasion--their coming out to visit the relatives, not only herself, but others who lived nearby there--she made sure that Frances came with them, and she made sure that I was there at that time. She made the introductions and the first acquaintances, and things picked up from there. Frances was attending the University of Utah at that time. I went back to Logan to finish my schooling. She continued at the University of Utah. We corresponded a little bit.

I had been continuing to work on this project even while I was going to school because there's a lot of analytical work to do, and I ended up as the one in charge of it, for some reason. So, after I graduated in 1935, the state engineer of Utah invited me to join his staff to complete the project and to begin work as a regular staff member. I moved to Salt Lake City and found a place to stay right in the city for room and board.

LaBerge: Is that where the University of Utah is?

Morgan: Yes. The University of Utah is in Salt Lake City. So, the frequency of visits between Frances and me had picked up [chuckles] and we became engaged. She graduated from the University of Utah in June, 1936, in elementary education. She wanted to teach a year. Her father was dean of the School of Education at the University of Utah, and he agreed it would be well for her to have at least one year of teaching. By that time we were in the depths of the Depression, or, the country was, we included. And they had a rule there in Salt Lake City, and it might have been a wider application also, but at least certainly in Salt Lake City, that there could be only one worker in the family as a breadwinner. They wanted to spread the work around. So, if we got married it meant that Frances couldn't teach. So, we decided to postpone our marriage so that she could teach for a year. And we did, and then we decided that was enough of that, and so we were married in June, 1937. I hope that's right. [chuckles]

## State of Utah Engineer's Office, 1935-1940

Morgan: I continued my work at the state engineer's office. We lived in Salt Lake City, rented an apartment. At that time I kept a rather strict journal, or ledger, on income and expenses, and it's most interesting to go back and read it now. Our children can't believe it; neither can we. [chuckles] Making $125 a month, and we allotted $25 a month for food, and my wife has always been a good shopper. She'd do the shopping and have enough money left out of that to buy a thing or two. Hamburgers, ten cents a piece; shows, thirty-five cents; even have some of the names of the shows recorded then. But, anyway, it was a delightful time and it turns out, easier to get by than later when I made more money. I got a raise to $150, and that helped.

But from the work on the drought, I got into water rights. The state engineer is responsible for the administration of all the water rights in the state. As far as building all the dams and development of underground water and the jurisdiction of all the water rights--I got into that quite heavily. Each biennium the state engineer had to write a very comprehensive report for the governor of the state on water supply and water distribution. Water is a very scarce and valuable commodity in all the western states, and Utah is certainly no exception. I was working with representatives of the attorney general's office. There are a lot of legal problems connected with water rights.

In the meantime I was taking some classes at night on report writing sponsored by the University of Utah. I wasn't taking them for credit; I was taking them to increase my capacity for writing reports, which I found myself thrown into as an engineer. Engineers are notoriously deficient in communication, verbal or writing. So I was trying to improve my skills. I was busy writing a report--one of the biannual reports--when I was called to active duty in the army.

LaBerge: What year was that?

## III WORLD WAR II, 1940-1946

### Active Army Duty, 1940

Morgan: I was called to active duty in 1940. The United States was not actually in the war, but being pushed closer and closer to it. A huge expansion program was underway throughout the whole nation, building cantonments, airfields, and all other kind of facilities.

LaBerge: What was the one thing you said they were building? Can--

Morgan: Cantonments.

LaBerge: What is that?

Morgan: That's a whole group of buildings where troops are housed. Cantonment. Maybe it's a derivative of "containing," "containment."

LaBerge: Or like "canton," those cantons in Switzerland, you know, those different sections?

Morgan: Well, you have barracks and parade grounds and mess halls and training facilities of all kinds. The initial construction program was assigned to the quartermaster, I don't know why. The quartermaster general. Until then, the quartermaster function was primarily one of supplying food and other supplies to the armies. I guess the reason it was assigned, they have to see that the troops are well fed and well housed, and I guess that's probably why they assigned this initial expansion to them. Anyway, they were very short on engineers because engineers don't ordinarily go into the quartermaster corps.

LaBerge: Why would that be?

Morgan: It had nothing to do with engineering.

LaBerge: That's right.

Morgan: Cooks, and people that make the beds, and--. [chuckles] So as I stated earlier, my commission in 1934 at the Utah State University, was in coast artillery. That was the only branch of the service that was at the college at that time. But anyway, I got a form letter along with, I presume, many others, that asked if I would be interested in serving my one year mandatory duty on construction duty rather than in coast artillery. That was not a hard choice to make. I responded right away. I should add that Congress had passed a law that all reserve officers had to serve one year of active duty. It was sort of a call-up of the reserves. Again, war had not been declared so they had no other basis to call reserves to duty other than this special law.

Anyway, ten days after I sent in my reply, I had orders to report for duty. And that was rather a shock. We were comfortably located, and by that time we had one young son--our oldest boy, Kent, was born in April; this was in November, that's six, seven months old.

## Fort Huachuca, Arizona

Morgan: I was to report to Fort Huachuca, Arizona. That was a place unknown to me and sounded like a long ways away for a young country boy.

As I mentioned earlier, I was in the midst of writing this report for the governor. And I was the only one that had all the information, and was deeply into it. My boss, the state engineer, and the governor were somewhat horrified to think that I'd be called away that suddenly. So the governor sent a wire to the Quartermaster General of the United States asking for a thirty-day deferment so that I could finish this report. And it was approved. So we got a thirty-day delay, but set out for Fort Huachuca early in December.

We had a hard time, but we finally found the place all right. But there was no place at all to stay at the fort, which is an isolated place at the foot of the Fort Huachuca Mountains on the border line between Arizona and Mexico. In fact, the fort was established back when they had the raids--problems with the Indians as well as the Mexicans. So we finally found a place to stay in nearby Bisbee, Arizona, for a few nights. We didn't like the place. It was a mining town. Then we found a much better place not too far from there in Warren, Arizona. It was about a thirty-mile commute over to Fort Huachuca, but at least we had a place to stay, and we just barely got moved in for Christmas. We remember distinctly being there all alone, not knowing anyone, with a young child, eight months old. It was a rather lonely Christmas.

LaBerge: And you probably couldn't get leave to go home or anything like that.

Morgan: Oh, no. No, I hadn't been in the army long enough to have any leave. That was quite an experience for us, both of whom had always lived near family, big families, strong family ties, completely cut loose now.

Then Fort Huachuca was a very small, almost an outpost--almost a country club for retired calvarymen. They all had their horses and horseback riding and a little bit of polo, but certainly, going in the mountains was a main--. I don't want to say that's about all they did; they were really a part of the United States Army, but it was a pretty nice place to be. [chuckles]

All at once they were assigned to greatly expand the fort, to take troops for training, and a big cantonment to build. That's what I was assigned to, initially. That part of the country is ideal for training because there's sunshine the year 'round and that's very conducive--. Fort Huachuca later grew, oh, to big size, and it became one of the electronic centers for the whole United States Army, which it is today.

But I wasn't there too long because they had a much bigger expansion underway at Fort Bliss, Texas. That's near El Paso, Texas. I remember the colonel at Fort Huachuca under whom I was serving came to me one day and asked me how I'd like to go to Fort Bliss, Texas. And I told him, well, I didn't know; I'd never been there. He said that the colonel in charge at Fort Bliss was a good friend of his who had called over that he needed badly some more officers because it was a much bigger place. Did he have any to spare? I had been at Fort Huachuca such a short time that I really hadn't gotten into things, so I like to think that's why he offered me to go to Fort Bliss; that's what he said, anyway. Except, it may have been that he didn't see much hope for me. [chuckles]

## Fort Bliss, Texas

Morgan: But anyway, I got my orders to go to Fort Bliss, Texas.

LaBerge: How long had you been at Fort Huachuca?

Morgan: Oh, maybe a month or slightly more.

LaBerge: Oh, my gosh.

Morgan: But we were not happy because of the commuting distance. So we went to Fort Bliss, Texas.

##

Morgan: Fort Bliss was a much bigger place. It was the home base of the Seventh Cavalry. It also had an airfield adjoining Fort Bliss. And there was a general hospital; the William Beaumont Hospital was there. All had needed expansion. So this was really a big expansion job--one of the biggest in the country, I guess. Expansion was taking place and we really had a big program. Right away, I was assigned some rather specific duties in the construction program as contrasted to the rather general one that I had at Fort Huachuca.

LaBerge: What were your duties?

Morgan: I was in charge of--the water supply was quite inadequate, and perhaps my water supply and development experience in Utah was what attracted the colonel over in Fort Bliss; I'm not sure of that. But anyway, we had to develop some big wells, deep wells, and I was put in charge of doing the design and writing up the plans and specifications and getting the wells drilled and distribution systems built.

LaBerge: Was that a pretty big jump for someone who was really fresh out of school?

Morgan: I thought it was. [chuckles] I,--boy. I'd done some of this, but I'd never done it all alone. He just turned it over to me. We had contractors that would do it, that did the work, but I had to oversee the design and the actual drilling, and getting the contractor to hook it up. I was also doing some helping on the layout and design of buildings for the whole new cantonment which was then called "Logan Heights"; it was part of Fort Bliss, but called Logan Heights, and it's since become a city all its own. We found a nice place to stay, oh, within a mile, a mile and a half of where our office was. Our office was right out on the construction site. This contrasted to a thirty mile drive at Fort Huachuca, so it turned out to be a very good move for me.

LaBerge: What was the name of the town you were living in?

Morgan: El Paso. The northeastern part of El Paso. The whole of El Paso stretched over wide territory. Fort Bliss was actually within El Paso, but it of course was an army reservation, and El Paso had nothing to do with it. So, we were very busy, and since I was called up to duty just for one year, and my one year was around December 1 with the delay I got through Governor Blood--.

LaBerge: Governor--? What was his name?

Morgan: Henry Blood. Just like blood and thunder. [chuckles] This would make it early in December. We had been furnished notice that our one year was up, and we could have a choice of--. They offered us a choice of staying in if we wanted to, staying in the army, extending our duty or getting out. I chose to get out. I had my papers all filed, and they were in the process of being approved, ready for my departure, and Pearl Harbor came along.

## Pearl Harbor, 1941, and the Corps of Engineers

LaBerge: December 7.

Morgan: December 7, 1941. I remember distinctly on my way to church--driving to church--and heard it on the radio that Pearl Harbor had been bombed. The first thing that hit my mind was that, "There goes my discharge." And the next day--I think it was the next day or two that war was finally declared--all reserve officers on this one year of duty, their termination was automatically canceled. I'll tell you, they move quickly when they want to. That next week I had my orders extending my duty indefinitely for the duration of the war, and I was in. At least I didn't go through the agony of getting called up after war had been declared; I was there.

Not too long after that, after war was formally declared, the expansion all across the country grew rapidly. They were building a lot more airfields and army bases, supply depots, everything. They then transferred all of the construction duty--all of the construction work, I should say--to the corps of engineers, where, in my view, it should have been all along.

LaBerge: Is the corps of engineers a section of the army?

Morgan: Yes. It's a part of the army. There's the quartermaster corps, the corps of engineers, there's the infantry, there's the coast artillery, on and on. The corps of engineers consisted of many parts. There are combat engineers and there are construction engineers, then there are civil engineers, or engineers in charge of building dams--nothing to do with the army, but flood control dams. They had then, and still to this day, have that responsibility. Anyway, we were notified, of course, that we were all being transferred to the corps of engineers. I should say all of those specifically called up for construction were being transferred to the corps of engineers. The quartermaster corps officers on duty in the construction program that were not engineers stayed with the quartermaster corps; they were not transferred.

We had received notice that we were being transferred to the corps of engineers, with the district office in Albuquerque [New Mexico], and that's where we would be reporting, to the district engineer in Albuquerque. Before the actual--well, I don't know if there was a definite reporting date, that I don't recall. Not too long after we were transferred, a representative from the district office in Albuquerque came down to visit us; I'm sure they visited all the other places and officers they had inherited. They came down to see what work was going on at Fort Bliss and to interview each of the officers that they had inherited. Now, of course, the work had to go on, the overall supervision being the only change at that time. For some reason I was selected to go to the district office, the only one from the Fort Bliss office.

LaBerge: You mean the work had to keep going on at Fort Bliss?

Morgan: Yes, the work had to--. Well, it didn't mean because a transfer was made that all the work quit. The work went on. The district office in Albuquerque existed before the transfer, but it existed only for supervision of two dams that were then in process, one in eastern New Mexico, and one in southwestern Colorado. So the district office existed on a small scale compared with what they were going to be. So they had to expand their offices. And as I say, for some reason unknown to me, I was selected to be transferred from El Paso to Albuquerque, which sounded all right to me. We enjoyed El Paso but it's not all that great a city, it's a barren--. There are a few trees around, but not many. Hot in summertime.

LaBerge: Did you have any more children by then?

Morgan: No. Our only child was about twenty months old when we left--January, 1942. They sent me officially to Albuquerque to look for a place to live. I spent two days trying to find a place to rent but couldn't find one. So a friend of mine from college days was actually living in Albuquerque then and was in the real estate business. I made contact with him through our church, our church had a--we called them a branch then--in Albuquerque, and he put me in touch with a developer, a very good developer that he was working with. So I gave up trying to find a place to live and bought a house, or, I should say, I made a downpayment on it. [chuckles]

When I went back to El Paso, of course, my wife was very interested in what I had found and what kind of a place I'd found to rent. And I said, "I couldn't find one to rent." She said, "What did you do?", and I said, "I bought one." And she said, "What? Describe it to me." Well, I could recall some details but not enough. It was a new one that never had been lived in before. It was just being finished, as a matter of fact. I really had to rack my brain to reconstruct the floor plan for her. [chuckles] She was almost--. Of course, she didn't know whether she liked it or not, because she hadn't seen it. But anyway, we moved to Albuquerque. It was a small but comfortable house and we got it fixed up. Our furniture had been shipped from Utah; it never did get unpacked in Arizona, but it did get unpacked in Fort Bliss, so they moved it up. We got established, again, as a family and our social--. Initial contacts were with our church people; they were very helpful in getting us settled. We were renters in Arizona and in El Paso. Now we were homeowners for the sum of $4,000, a lot of money then.

## Construction Division in Albuquerque

Morgan: They didn't tell me when they transferred me what my duties would be. They may have known then, but they didn't make it known to me. So when I reported for my first day of duty in the Albuquerque district there, in downtown Albuquerque, I was the chief safety and security officer for the district, and I was also to be in charge of construction in one of the zones. The district was so big that they divided it into three zones. The total district encompassed Arizona and New Mexico, west Texas, and Colorado. All the construction going on in that whole vast area was enormous. And my zone, it covered New Mexico west of the Rio Grande [River] and Arizona, and Fort Bliss, Texas. It made a, well, I guess the reason it was divided that way, was they just drew a line up the river from Fort Bliss because of its geographical location.

LaBerge: What did that job entail?

Morgan: Oh, there were new jobs being authorized faster than you could believe. I was assigned to the construction division rather than the engineering division. So, my job entailed working with the engineering division and the architects and engineers that they would hire to design new buildings. That was more a coordinating job. So my job really began when they turned out the plans and specifications, and we went out to get the contractors to do the actual construction work.

We had to establish offices--area offices, we called them--throughout the whole district. We had one at Fort Wingate, Gallup, New Mexico, one at Flagstaff, and down through Arizona: Williams, Tucson, Florence, Fort Huachuca, and Douglas. In New Mexico there was Deming. Lordsburg and Las Cruces. Then Fort Bliss, Texas, and back up the Rio Grande River. Later, when we got into building the test site for the atomic bomb--that was Socorro. And then--yes, that's all we had, but that kept me on the road nearly all the time. With so much travel we were assigned a car and a driver--civilian, we didn't have any enlisted men at all.

LaBerge: And did you wear a uniform?

Morgan: Oh, yes. Yes, I was in uniform, as were all the officers, but no enlisted men. I'd leave with my driver on Monday morning and head west to make the rounds; we had to work all day and travel 'til midnight and find a place to stay and keep going. The facilities in that part of the country were so much in demand because of the climate. They could fly airplanes year 'round there, for training. We would then spend a day or two in the district office and then head out again. I just kept doing that month after month. But we got the things built--airfields, cantonments, hospitals, prisoner of war camps, storage depots. It was interesting work, and this, again, was being in the right place at the right time.

## Coordinator for Construction, Manhattan Engineer District

Morgan: In 1942--late in '42--when the atomic bomb business got started, the Manhattan Engineer District had been created as a special district. The sole purpose was to build the atomic bomb. They decided one of the facilities was to be out West somewhere, and it turned out that they selected the Los Alamos Boys' Ranch--that's northwest of Santa Fe, New Mexico--as one of the sites. Geographically, it came within my zone. So, with all the other work I was looking after, I became the coordinator for the construction of Los Alamos, New Mexico.

LaBerge: Did you know what you were doing? Did you know what you were constructing?

Morgan: No. I remember distinctly it was in December of '42. General [Leslie M.] Groves and an aide by the name of Colonel Allan Johnson came out to our district in Albuquerque. The district engineer announced to a few of us that we had a very important meeting with General Groves. He, Colonel [Lyle] Rosenberg and my boss Colonel [Ruben] Cole and I and Colonel [L.E.] Cox, who was head of engineering--were to meet with the general, a very important meeting. We got in the conference room and they closed all the doors and I remember someone closing the blinds as well. I wondered why, but that was of course so no one could look in and see who--identify the general with anyone or anything else, I guess. But they told us they were going to build a project up at Los Alamos. It was to be known as "Project Y." All they told us was that we had to build facilities for 600 people, primarily research scientists, and test facilities.

LaBerge: So the facilities would be living quarters?

Morgan: Living quarters and maybe a commissary and minimal support facilities. It was to be bare-bones, nothing fancy. The facilities were to be, well, two-story apartment houses, cantonment type. I don't want to use the word cantonment, but--two-story apartment buildings. At that time, or just shortly before that, the site was an exclusive boys' ranch in the slopes of the Jemez Mountains. Of course, none of us had been up there to see it; we were just told how to get there. I remember one of the group asking: "Fine, when do you need all of this? What kind of a schedule are you talking about?" And when the general handed us the schedule and explained how tight but how important it was, I guess all of us had such looks of disbelief on our faces that he said, "I take it from the looks on your faces you don't think it can be done, huh?" He says, "Well, I can tell you"--there were five of us--"if you five can't do it, I know five officers who can. Now, can you do it?" "Oh, yes. Yes, sir." [chuckles]

By that time the demand for all kind of building materials in the country as a whole was so intense that all building materials were rationed: lumber, copper, plumbing, asphalt. You name it, it was rationed, and it was all controlled by the War Production Board in Washington. Even the work we were then doing, we had to have a priority number for the contractors for anything. The contractor would have to show a priority number on all of his orders to the supply houses. General Groves said, "You'll have the highest priority there is in the country and if you have any trouble getting any material of any kind, you call my aide, Colonel Johnson, and he'll get it for you." And that turned out to be true. We had trouble, and we'd call Colonel Johnson, and it'd come. They even took material off of the docks being loaded onto ships to go to the war zones.

LaBerge: What were you thinking when all of that was happening?

Morgan: I was just thinking, "How in the world are we going to get it done?" It was exciting, to say the least. It was a challenge.

LaBerge: But were you all wondering, "Why is this thing so important?"

Morgan: Well, he did say, I should add--. No, he didn't tell us what was going on. He said that, "This project is of such vital importance to the outcome of this war, that whether you succeed or not will depend upon whether the country succeeds." And he said, "Some of our enemies are working on the same thing. I mean, the outcome will depend on who gets the answers first--will pretty much determine how the world is going to be from here on." These are not his words; that's the essence of it. But he really impressed us. We had a job to do.

So, he and the colonel and his aide left, and the district engineer spent a few minutes with the rest of us going over what this new project would mean to all of us. He made some pretty important assignments and changes right then, and since it was in my zone, as I say, it just happened; I was suddenly in the limelight. If it had been in one of the other zones of the district, I wouldn't have had this great experience, it would have been one of the other zone's leaders. So, I was in the right place at the right time. And I don't recall the general saying at the time, but it soon became known that anyone who was associated with the Manhattan Engineer District would not be permitted to transfer or be transferred for any other army duty. In other words, this is your job for the duration, so get on with it.

Well, we went up to Los Alamos. It was up a small, two-lane winding road, up the face of a cliff with switchbacks to get there. The boys themselves had all been transferred to other schools, but the caretakers were still there. So we made a survey of what we had, what we had to go with, the water supply--. The general did tell us a little more about the kind of program we had to build facilities for. We sized up the job to be done and the district engineering people got busy with the design.

I was assigned the task of finding a contractor that we knew could produce. Oh, the general had told us that, "The army regulations exist, but you don't have to comply with any of them if it means holding up the job." He said, "If there's something that in any way involves extra time, forget about it, I'll take care of any auditor general or if any questions are raised, I'll protect you. You just get the job done."

Ordinarily to pick a contractor you would advertise for bids. We didn't even have time to get a set of plans and specs out, let alone advertise for a contractor, so the district engineer asked me whom I'd recommend. He asked me and he asked the other zone chiefs--I was a zone chief--about their contractors' work. My recommendation--the top one that I'd been working with--was Robert E. McKee, whose headquarters were in El Paso. He'd been doing a lot of work for us at Fort Bliss and at other locations. It was a big organization with a lot of depth, a lot of good people. After evaluating all the names that were submitted, McKee was decidedly the one. We needed to see if he was interested. So, since he was my nominee in my zone, I was told to call him on the phone and get him up to the district for a meeting.

## Hiring a Contractor for Los Alamos##

Morgan: So I called his vice president, Jack Brennand, in El Paso. I told him what I knew about the project, which was very little. Would they be interested? And he said, "Sure." And he wanted to know how soon. I said , "Right away, like tomorrow." [chuckles] I had told him it would be up--so far as I knew--up near Santa Fe, New Mexico, somewhere. I said--it was in the afternoon, I know, when I called, because he said, "Well, when do you think I should be up there?" And I said, " Ten o'clock tomorrow morning." He gulped and said, "All right. I'll be there."

He had also asked me how big the job would be, and I said I hadn't the slightest idea how big it was going to be. He said, "How about a contract?" And I said, "We'll have to worry about that later." I had become well acquainted with Jack Brennand, he was a fine gentleman, I felt he was completely honest, which he was. Good to work with people and get along, and so--. Anyway, he showed up at the district office the next morning. We met briefly with the district engineer and the construction chief, Ruben Cole, Rube. Then--

LaBerge: Is this Colonel Cole?

Morgan: Yes. He was a "light" colonel, the district engineer was a full colonel and I was a major; we came all down the scale. [chuckles] And then a little more time with Colonel Cole; then much more time between Jack Brennand and me. Then we went over to see the chief of engineering, Colonel Cox, who was in an adjacent building, and we tried to piece together all that we knew, which was very minimal.

## Building Living Quarters

Morgan: Well, to move along, we soon discovered that there was so much work to do between building the housing facilities, the community facilities, and the test facilities, that we really needed a--and such a short time to do it in--we needed two contractors. One to build the initial living and then the other to do the more technical laboratory buildings. So, I got another contractor that had done a lot of work for us by the name of M.M. Sundt.

LaBerge: Also from your zone?

Morgan: He was from Tucson, Arizona. He came and built the barracks--they were literally barracks--largely for construction workers to begin with. And McKee got started on the more technical things. Other contractors came later to build roads and utilities. The design engineers--. Well, we had to get architects and engineers aboard. That was not my responsibility; that was the chief of engineering's responsibility. They got an architect in Santa Fe--W.C. Kruger and Associates. Our schedules were so tight that the designers would work all night, and we would take whatever they had produced right off the drawing boards each morning and get it to the contractors to keep them working all day.

LaBerge: And, as you said, you didn't take bids. I mean, in normal, everyday life, you take bids for the contractors, for the architects, don't you?

Morgan: No. No we just went and--

LaBerge: Hired people.

Morgan: As a matter of fact, McKee, as I remember--the government owed McKee about eight million dollars before we ever had a contract with him. That was a lot of money in those days.

LaBerge: Wow.

Morgan: That would get you in jail now. But, that's how fast we went. One of the reasons we picked McKee in the first place was that he had the resources to carry himself, because we knew it'd be a little while before he got paid. It wasn't that the government wasn't paying its bills, but we couldn't figure out what kind of a contract to make with him, or how to spell out the scope of it, or on what basis we'd pay him, because he was a--. Ordinarily, you'd have so many--certain buildings, always specific buildings, well defined, and he would bid on it, and that was what you'd pay him for, but they were literally building things that were just designed the night before.

So, he came up to Santa Fe and we set up our own offices there also. He established offices right away, as Sundt did, too. Both of them in Santa Fe, because there was no place to stay in Los Alamos. There were a very limited number of log houses that the boys' school had had for years and had recently vacated. There was also one large lodge, which was the central dining place for the boys' school. Very rustic, very nice. And then some nice houses where the headmaster and some of the faculty had lived became the houses for the top scientists that arrived. But we were putting up, initially, quonset huts and prefabricated buildings that became the main living quarters for the early "settlers" quote, unquote--scientists that arrived while we were building these two-story, four-unit apartments. I didn't live up there; I went up there--oh, spent two or three days a week initially, after construction got started. I had a bed in the attic of the lodge. And then I would also stay down in Santa Fe.

## Building a Power Plant

Morgan: We had to develop a new water supply; the water supply for the boys' school was totally inadequate for what we needed. The power supply was just a small generator, and we had a--. The power requirements for the experimental buildings were on an order of magnitude many times over what was there. Power demands for those facilities there were greater than most any other project we had. We had to get a power plant, a generating plant in a hurry. You couldn't order the parts new from Westinghouse or G.E. [General Electric], and the other places that put them out, and get to build a new one. There simply wasn't time.

So, we sent scouts out to find a surplus power plant somewhere, and they found one down in Texas. Our contractor dismantled it and put it on railroad cars and shipped it up to Santa Fe. Santa Fe did not have a railhead. The nearest railhead for Santa Fe was in Lamy, about fifteen miles from Santa Fe. But anyway, it got shipped; everything got shipped into Lamy. We got it on the lowboy trucks to haul it up the hill.

We hadn't improved the road getting up to the boys' ranch because this was early on. And these switchbacks were rather severe ones. Going around one of those switchbacks, they didn't make it. The load tipped over and part of our precious power plant rolled down the hill. We got down the hill and found that the--what is called the head of the cylinder block had been cracked.

We're now in winter and Los Alamos is around 7,000 feet in elevation. Seven thousand on up. It was on the slope and there was snow on the ground. Well, we had a real job on our hands, so there was a lot of enginuity--ingenuity as well as enginuity--[chuckles]. One of the workers erected a tent on this steep slope to cover the damaged head of the cylinder block so they could weld it. They didn't dare move it, for fear it would crack even more--maybe break in two. So they built this tent for cover and they welded it. We got it back up to the road and on the trucks, there to its final site.

They assembled it and got it working. It was the only source of supply for many months and the weld that they did--it wasn't quite as smooth or fit quite as well as the original did or should have done. There was always a low thud or thump. It was a diesel-powered generator and had to be run day and night. I remember lying there in my bed in the lodge hearing that "thud, thud, thud," and that would put me to sleep. I was so thankful that it was working and producing power!

We hadn't nearly completed our first assignment of housing, i.e. to take care of the first 600 people, when the orders came from General Groves, instead of 600, there were going to be 1,200. And we didn't have that done before they doubled the figure again.

LaBerge: To 2,400.

Morgan: Yes. So we never could catch up. But the scientists arrived and some of their families began arriving. As I said, it was called

"Project Y." They only had one address; security was very strict, it was very compartmentalized, purposely.

## Families and Security at Project Y

LaBerge: I'm surprised they could bring their families. Or did their families live right there?

Morgan: Oh, yes. We had to build schools. One of the first things we built was a nursery school. I still have the rendering of one scheme for that first school. Of course, there was all kinds of curiosity and rumors on the outside, of what in the world was going on up on the hill. One interesting rumor making the rounds among the officers' wives was that the place in Los Alamos was to be a home for pregnant WACs. When it became known that we were building a nursery school, this particular rumor became the real "leader." But when the truth became known this good rumor became a good joke.

Initially the people who lived there couldn't go out; they couldn't leave. The mail, incoming and outgoing, was all censored.

LaBerge: Wow. They could not leave the--. So you had stores? You had everything they needed?

Morgan: Well, we had to build a commissary and a theater, and one of the log buildings became a post exchange. It was regular army fare. It wasn't a store; it was a post exchange. It wasn't a grocery store; it was a commissary. The theater was a theater, though. Well, when anyone left, whether it was a scientist or family member, they had to state where they were going and there was surveillance on them all the time they were gone, even the family members.

LaBerge: Now what about you and your family?

Morgan: My family didn't live up there until after the war.

LaBerge: But were you surveyed when you left and would go home?

Morgan: I had a pass, I could come and go. I had to show my pass, but they knew where I lived. I was probably under surveillance all the time, I don't know. I never knew. But the contract for doing the scientific work was awarded--we had nothing to do with it whatever--it was awarded to the University of California. And they actually employed all the scientists. We had the construction, of course, the contractors employed all the construction workers. They were hauled up from all around the nearby communities in buses. Some of the early things we built were barracks to house the construction workers so that we wouldn't lose so much time. But that only housed a portion of them. We had to operate--well, we didn't, the army did--a whole fleet of buses to go around all those towns and villages in northern New Mexico and pick up the workers and bring them up. It was all workers, not only construction workers, but clerks, typists, housekeepers, maids, janitors, and everything else.

LaBerge: Were all of those people--did they have to go through checking?

Morgan: They all had to be checked and to have badges.

LaBerge: I mean, were your backgrounds checked into?

Morgan: No. Depending upon where you were going to work. If you were going to work in one of the technical areas where research and scientific work was going--they got a thorough one. But it was an impossibility to check all the janitors and so forth in great depth, so the badges were all coded. You had a badge that would go certain places, but to get into what we call the technical areas you had to go through another check gate. Only those who had business in there could go through that gate. So it was compartmentalized. The underlying thesis was: You get to know only what you need to know to do your work, and that's all. And that was very strictly adhered to. Among the scientists, too.

LaBerge: So that many of the scientists didn't know what they were working on.

Morgan: Very few knew the total picture. And then, of course, [Dr. J.R.] Oppenheimer took up residence quite early up there.

LaBerge: Did you meet him?

Morgan: Oh, yes. Yes, indeed. Yes, we would have to meet with him to find out for sure what they wanted. [chuckles] And, of course, he got the old boys' school's master's house. They weren't allowed to use their real names when they left--most of them traveled under pseudo names. The rules were pretty well spelled out for them, the security instructions, what you could do and couldn't do when you left there.

LaBerge: Would Oppenheimer have had a pseudo name when he left?

Morgan: He was well enough known. I don't know. All the incoming mail--now let me back up. The University of California established a business office down in Santa Fe to process all incoming scientists and everybody had to report in there. They were then transported up the hill to Los Alamos. Again, it was part of security. All the purchasing initially was done down there. It was quite a business office. And there was one post office box number: P.O. Box 1660, if I remember correctly. No matter whether you were a housewife or a top scientist, everybody used the same P.O. Box number. In Santa Fe.

All the enlisted men and all the officers that were sent there had an A.P.O. number for an address, just the same as if they were going overseas. So, it was quite a shock to many of them who were assigned an A.P.O. number, only to get off the train in Lamy and find they were going only to New Mexico. They wanted to know where the ships were they were going on and they were told there weren't any. They were going up in the mountains.

LaBerge: But their families didn't know that.

Morgan: No, no. They didn't know it, either. Their families eventually knew that there was a Project Y in New Mexico. With the A.P.O. Box number, they could write to them.

LaBerge: What did the enlisted men and officers do?

Morgan: The enlisted men, they were assigned--there were a lot of Ph.D. enlisted men--in research areas. There were a lot of them that were engineers that were assigned engineering work. Not design for construction, but--. A lot of the designs of research facilities that were needed inside of the research areas were actually designed by the laboratory people themselves. And purchased by them. We had nothing to do with that part. We were just building buildings. A lot of the things that had to go inside of the buildings they did, and they were highly classified.

Oh, I had something. I lost my train of thought. Well, one thing that comes to mind is that we had an extremely cold winter. I don't know which winter it was, but all the pipelines--. We had built a water line to another canyon that wasn't the original supply line for the boys' ranch. We had built this new water line. We had to do it in such a hurry, we'd build it up on trestles over rocky slopes. We would bury it where we could, and hang it down over cliffs in some places. But anyway, it was exposed and it froze up. So we had to hurriedly get together a fleet of water tanker trucks and haul water up from the Rio

Grande River. We really rationed water then; we only had so many gallons per day for the entire community. I remember the old saying was that, "It was cheaper to buy whiskey to drink than to drink water."

LaBerge: Sort of like today. [chuckles]

Morgan: This occurred later, but it's an incident that I recall. I know for a fact it was after my family moved up, because the bath water--you'd draw very minimal in the bathtub. There were very few who had bathtubs then. The only bathtubs in the whole project initially were those that were in the boys' ranch; all the rest had showers. So, it became known as a "Bathtub Row." They were pretty much lined up in a row, and were used by the faculty of the school. You'd put just enough water in the bathtub to take a minimal bath, and then you'd take turns. My wife bathed first, then the kids, and then you know who. I was the last one, I remember. Then you'd dish out the water and take it out and put it on the few shrubs that were around there. So, if we had water rationing in the Bay Area now, it wouldn't come close to what we had for a week or so. But we survived.

More and more people moved in and the town grew. We were never told what was going on. One of the facilities we had to build was out quite a distance from the center of town and the central research. I should add here that that mountain range was an old extinct volcano--it was of volcanic creation. I don't know how many million years ago. It was typical of such geologic formations--spews volcanic ash all over and then years and years of erosion. You have a plateau and then a deep canyon, almost vertical walls. And then another plateau. It was just like taking the palm of your hands [demonstrates] and here's the plateau, then a canyon, then a plateau, and on and on. It seems they would never run out. So, this was another reason, I'm sure, that made that place an appealing site for the ones who selected it initially.

LaBerge: So, then, you couldn't see--

Morgan: The town. Well, the town and the main facilities were up here on the hub or in the palm of the hand to use the homely illustration. A lot of these test facilities were either out on the plateau or mesa (finger) or down in a canyon, depending on the amount of security desired. Or if it turned out that there was to be a lot of blasting with high explosives and so forth. But it made security fairly easy at some of these sites by fencing off the canyon or plateau. So the original boys' school was out here, sort of the hub of things, and looking eastward off across the Rio Grande Valley to the Sangre de Cristo mountains.

It was beautiful up there. Up over the top of the mountain is a huge valley, a beautiful huge valley called the Valle Grande. It was a huge cattle ranch. Whole slopes in the Valle Grande came to be some of the main recreation areas.

LaBerge: For skiing?

Morgan: Yes, skiing.

LaBerge: And people were allowed out to go do that?

Morgan: Well, the confines of the fenced area of Los Alamos included the slopes.

LaBerge: Someone really did a lot of planning to find that place.

Morgan: The total area that we had under our jurisdiction was 64,000 acres. The Indians--the Pueblo Indians down in the valley--had some of their sacred grounds within our fenced area. We had quite a bit of trouble. I'm wandering a bit here--

LaBerge: No, you're not at all.

Morgan: But, I remember, the security had to be, well, secure. The area was so vast, we actually had mounted patrols riding these fence lines. I remember getting a distress call at one time. A security patrol ran into two or three Indians inside of the fenced area. The Indians were just conducting rituals or meditating, or whatever, on some of their old, old ritual grounds there. The security officer came upon them, and they were having quite an argument. I remember I had to settle it. We agreed that the Indian would pray to his god, and we'd pray to our god, and hope we came out all right. And the Indians left and the patrol left. [chuckles]

LaBerge: They didn't have to promise not to come on again?

Morgan: Those particular ones promised us they wouldn't come on again, but I assume some others did.

## The Los Alamos Scientists##

LaBerge: You got acquainted with some physicists?

Morgan: I should say, with a lot of the scientists that were being assigned there, because we had to work with them all the time, and became very good friends with many of them. You'd look in Who's Who or other journals and find out they were physicists, so you knew something was going on that had a strong relationship to physics. Of course, they turned out to be nuclear physicists.

But right from the beginning Oppenheimer established a rule that no one would be called by his academic title, i.e. "Doctor." Most of them had their Ph.D.'s, but they could not be called "Dr.," only "Mr." And this was a severe blow to many egos, I'm sure, because they had worked those many years to get a Ph.D. and couldn't be called or referred to as "Doctor." But he was very strict about that. And the average age of the scientists at Los Alamos at the time they put this whole thing together was only twenty-nine years of age.

LaBerge: Wow. You were about that age, weren't you?

Morgan: Let's see. I was about thirty--I was born in '13, and this was in '43, I was thirty. Yes. I hadn't thought about being a youngster; we just went ahead doing our business.

LaBerge: Can you remember the names of some of the people, some of those physicists, besides Oppenheimer?

Morgan: Yes. Some we knew and got to know quite well. Norris Bradbury, Daryl Froman, John Manley, Duncan MacDougall, Eric Jette, Hans Bethe, Edward Teller, James Tuck, Carson Mark, Freddy de Hoffmann, Dick Tasheck, and Raemer Schreiber, on and on. I could give you a whole list of them, but--

LaBerge: So you knew you were building--

Morgan: Jim Tuck was an Englishman, I remember him. He was from England. He came over and worked in the labs all the time I was there. I remember him because he had such a--I'm searching for words--strange wife, interesting person. [chuckles]

LaBerge: I thought you were going to say, "Because he had such an English accent."

Morgan: Well, he did that, but his wife was a robust gal and would go around with great big G.I.boots on, wading through the mud. I distinctly remember her car. She backed up some way onto a stump of a tree. She got up in the air so far that all the rear wheels would do was spin. So she left and found a great big cross-cut saw somewhere. And I remember seeing her with this saw--she was a very manly person--sawing off the stump of this tree so that her car would come down on the ground again, And she did it. And off she went again. She was quite a gal. But, we had all kinds of characters and problems. Oh, let me see. I have to go back--.

## Building the Trinity Test Site

LaBerge: Well, tell me this. When you knew that there were high explosives and there were physicists, I mean, when did you start to suspect what they were building?

Morgan: Oh, no. I never really had the total concept; when the work at Los Alamos got far enough along--the research--they had to have a test site where they could test, really test an atomic bomb. They couldn't do that up at Los Alamos because it was too populated. They didn't tell us they were going to build a test site for an atomic bomb. My putting that together was after the fact. All they told us was they had to have a test site in a very remote area where they could have a high degree of security. So, we had to go look for a test site--which we found, we had several--and they made the final selection. East of Socorro, New Mexico, and that's in central New Mexico, about halfway down the Rio Grande River and then off to the east. It was a ranch--it was all cattle ranches out there. So, that's where we built a test site.

LaBerge: Is that Alamogordo?

Morgan: No, that's north of Alamogordo. This is what is now called Trinity. The Trinity test site. I guess it got its name because they weren't sure, when they set off this bomb, whether they could actually control it, or whether it would just go on and on into eternity. That's where Trinity got its name, I guess.

LaBerge: I see.

Morgan: [chuckles] I'm only guessing. But if we thought we had to hurry our project at Los Alamos, boy, to get this test site built when they wanted it was even worse. This was primarily building roads, bunkers, towers and other heavy construction. So I selected another contractor, the Brown Construction Company of Albuquerque, who'd done a lot of good work for us. We got him there building roads to get out to where the test site was to be located. There were to be no living quarters at all there. We had to build bunkers, very strong bunkers, well mounded with dirt where instrumentation would be placed and where people to observe could be protected. But the test site consisted primarily of a central place where they could hang a bomb on a tower and all the facilities for detonating it, and a reliable power plant. During those early stages there were two general groups of scientists at Los Alamos directly concerned with the bomb: the optimists and the pessimists. Those who were sure that they could detonate this thing and make it go and those who were fairly sure it would be a dud.

LaBerge: Did you know at the time who these were?

Morgan: No. No, in fact, I didn't know what I'm telling until later. Besides building the bunker where they would observe the testing, it turned out they planned to hang the device on a tower--those were the optimists. To satisfy the pessimists and bring them along in the development and to keep peace, I guess, for Oppenheimer to keep peace in the scientific community, those who didn't think it would go, and there was such precious little plutonium and uranium--enriched uranium--that if it didn't go, they didn't want to waste it.

So, they conceived the idea of building a huge steel vessel. It was something like the lining of a thermos bottle. It was a cylinder with a narrow neck. About thirty feet long and maybe six or eight feet in diameter--outside diameter. There were thick steel walls all around it, eight-inch steel. It was built in the East at Babcock Wilcox Manufacturing. I'm not sure if that's the right title or name, but it was built in the East. And it weighed so much--by the time they got it built--it had to be shipped out to the site by routing it all around the lower part of the United States because not all the railroad bridges could carry that load. They also had to build special railroad cars.

The main railroad line ran up the Rio Grande River. We had to build a special road--from a special siding off of the main railroad--and a special road from the siding at the railroad over to the test site, which was thirty or thirty-five miles, roughly thirty miles across this sandy desert. We had to build a special trailer to haul it. I remember, this trailer had sixteen wheels, and I don't know for sure, but each wheel was about seven feet in diameter at least, maybe eight.

LaBerge: Were you in charge of getting the trailer built?

Morgan: Yes. The trailer was built by Eidal Manufacturing, how well I remember that. They were located in Albuquerque and they built the trailer in Albuquerque. Then to get it across the desert from the rail siding to where it was to be erected loaded with the steel vessel, we had two huge D-8 Caterpillar tractors, one pulling and one pushing. By the time we got the vessel to the site, the optimists had converted the pessimists to the view that they didn't need to use it. But it didn't delay the test, all of that went on concurrently while we were building the roads and all the other test facilities around there.

As usual, we didn't have time to fabricate and build a tower, so again, we located, somewhere in southeastern New Mexico or Texas, one or the other, a USGS--that's United States Geological Survey--triangulation tower, and dismantled it and trucked it over to the test site. We had to pour the concrete base; this tower had to be set up on concrete piers. We had to get going and put the concrete piers in place before the tower arrived. We were sent drawings as to where the anchor bolts should be set in each pier--how far apart they should be set, and how far apart the piers should be--and then how far apart the anchor bolts within the piers should be set.

Well, we had the concrete up, poured, and the anchor bolts in place. The tower arrived and there was an error on one of the drawings they'd sent us. So, the anchor bolts and the holes didn't match up. Well, what to do? The scientists had given us a certain time when we had to be out of there. We would build facilities and then they'd kick us out for a day. The earlier facilities that they used in testing were made out of wood, very heavy timbers. Very heavy construction. And they'd kick us out for a day or two--all the construction workers--and we'd come back and we couldn't even find what we'd built; they'd blown them up completely.

Well, this time was different, because we had a deadline on this tower. We had no time to chip out the concrete and reset the anchor bolts. So, one of the welders, bless his heart, came up with the idea of--. The anchor bolt was off just the diameter of the anchor bolt. So here's the one we had in place [showing with hands] and we needed it over here. So he came up with the idea of welding another anchor bolt onto the one that was sticking up, but not sticking the new one down in the concrete, but welding it, because it just fit the plate we had to set on the top of the pier. Well, there was a captain, Sam Davalos, who was down there, sort of the eyes and ears of the scientific community representing the commanding officer up at Los Alamos. I was in no way connected with the commanding officer in Los Alamos; I worked for the district engineer.

Anyway, Sam was down there and to the welder's idea he said, "No, that will never do. Can't do that, it might disrupt the whole thing, it might sacrifice the whole thing." Well, I got some of my good engineers who were there, as well as myself, and the contractor. We concluded that the weld was going to be as strong as anything else. So, since I outranked the captain, I told him we were going to go ahead no matter what he thought because we had to get the job done and get out of there. He mumbled and grumbled and said he'd report me to his commanding officers. I said, "I don't care. Go ahead. We're going to get the job done." So we did. We got the tower up and they kicked us out.

## Testing the Bomb and the Aftermath

Morgan: We didn't get back in again until after the bomb had been exploded. I remember distinctly, of course, when we went back--

LaBerge: Do you mean when this one was tested or the one in Hiroshima?

Morgan: No. This was the one to make sure it worked.

LaBerge: Right. So you didn't get back in there until after--

Morgan: Until after the ones in Hiroshima and Nagasaki had been dropped. But when we did go back in, this tower--there was a thirty-foot tower with a platform up on top of it--wasn't there anymore. There wasn't a trace of the tower anywhere around; it had just been vaporized. It was very sandy all around. It was still radioactive, too. I don't know if we were supposed to wear certain clothing, but we didn't. By today's standards we would never have been allowed in there.

But I remember two things that struck me as we approached what was ground zero, ground zero [being] the point over which the tower had been erected. It just looked like a sea of glass. A million or so degrees of heat, terrific amount of heat from the bomb itself only thirty feet from the ground, had literally melted all the sand--and sand is a component of glass, silicon--until it was literally a sea of glass. I should have brought a sample to show you.

LaBerge: Because you have one?

Morgan: Yes, I collected several pieces. We all did. It was about that thick [showing two inches] and underneath was tar and other debris. Well, I picked up two or three big handfuls and took it home. It turned out it was radioactive, all right, but fortunately, not too bad. But, coming back--. A sea of glass--I still have a vision of it, dished out, because the blast just sucked sand up with it and created a huge dish or depression.

That's one thing that impressed me, and as I looked around another feature was clearly evident; most of the concrete on which the tower had been erected, the piers--had been blasted and shattered. On this one pier, sticking up, was this one anchor bolt with the one welded to it. All other anchor bolts were gone--vaporized.

LaBerge: You're kidding!

Morgan: That makeshift solution on an error was the only thing that survived the nuclear blast.

LaBerge: Did you tell the captain?

Morgan: Yes, I did. [chuckles] Yes, I did. Oh, he and I were then and remained good friends. He probably reported me to Colonel Ashbridge, who was the commanding officer. I never heard anymore about it.

Anyway, this material I gathered up as the others did, I took it home, and put it in the lower drawer of a four-drawer chest of drawers. Some film I had up in the top drawer was ruined because of what was down in the bottom drawer. They quickly sent out the word that anyone who had collected this material to turn it in, which we all did, at least I did. And they were kind enough to encase it in some lucite, oh, about this big around and about that thick [shows five inches by three inches]. Right in the middle of the lucite was the trinitite, shielded so as to make it safe. I'll bring one of those and show it to you.

LaBerge: Oh, I'd love to see it.

## Effects on the Cattle

Morgan: But, those were two memories from this test. So much for the test site; it became known as Trinity. We thought we had all the cattle out of there before the bomb. We had a hard time in getting one rancher to leave. He said that was his home, he wasn't going to leave. As I recall, we had to get the sheriff to get him out of there. But, the designated day for the test--I was not there when the blast went off; construction people didn't have the right clearance. It was very limited. But a terrific thunderstorm came up just before the bomb was to be set off. Of course, if lightning had hit that tower, it would have gone like that and the test would have been wiped out. Our next door neighbor up in Los Alamos--I was to learn later, I didn't know then--was the one up in the cab on the tower making the last connections before climbing down and getting to safety before the whole thing went. The test was actually delayed until this thunderstorm passed over.

But, the reason I mention the thunderstorm, there was enough of a breeze with it that it carried this radioactive cloud--you've seen pictures of it. It was close to the ground; it sucked up a lot of the sand, which became radioactive, and it fell out as the cloud drifted along. It just fell out like a snowstorm would and it carried further than it theoretically was supposed to. The cloud drifted over some ranches, that, again, theoretically were supposed to be in the clear.

But, because of this thunderstorm and the winds that went with it, some of this radioactive fallout went further than it was supposed to and affected quite a few cattle that later changed color. We had to transport all of those exposed cattle up to Los Alamos and build places for them to be cared for while they were scientifically studied. The knowledge of the medical effects of radiation was really in its infancy then, and they knew very little about it. These cattle became a very--maybe it's not a very good thing to say, but--gratuitous medical property. They really hadn't intended to radiate those cattle, but they did. They became a very important contribution to medical research.

LaBerge: Well, you had mentioned when we met once before, about the doctor who was interested in that, Dr. John Bowers [M.D.]?

Morgan: Oh, yes. This came later. He was with the Washington office after the Atomic Energy Commission took over. Let me come back to that.

LaBerge: Okay, we'll come back to it another time.

Morgan: So, of course, there was great joy, jubilation, and celebration among the scientists in Los Alamos--at least among those who knew what it was all about. There was, of course, no public announcement of what the test was all about. There was much speculation in the local papers.

LaBerge: About what was going on?

Morgan: Well, after the blast, there was a tremendous lighted sky over the whole of northern New Mexico; it was lighted up from the bomb. The blast was heard. There was much speculation as to what had happened. But they kept it under wraps. Kirtland Air

Force Base was located in Albuquerque, and the Alamogordo bombing range was south of there, the one that you mentioned a while ago. Initially, they excused the whole thing on what had gone on at the bombing range, and so forth. I doubt if many people believed it.

## Bomb Parts Sent to Tinian

Morgan: But, before the actual test at Trinity, the test of the bomb itself, the other parts of the bomb had already been sent to a staging area on an island in the South Pacific--Tinian. They had been sent by ship. The high explosives and all the detonating devices and so forth, they had been sent ahead.

LaBerge: Where did you say it was sent to?

Morgan: Tinian, T-i-n-i-a-n, I think it is. That had all gone on ahead so that if the test at Trinity proved successful and the president of the United States gave the word to go, the core--it was just about that big is all it was [shows about eight inches], the core made of enriched uranium with a hole or cavity in the middle of it where the plutonium source, which is the source of the neutrons, would be suspended--that was all that had to be shipped. So, the test was successful, and Oppenheimer, I guess, I'm not sure how it was relayed, must certainly have gone through General Groves over to President Truman who, if I remember my history correctly, was in Potsdam. He gave the word to go, so the "innards" of the bomb left immediately on an airplane and got over to the island where everything had arrived and was assembled and ready to go.

LaBerge: Did Oppenheimer take it?

Morgan: No. No, he didn't take it, but there were people from Los Alamos who went along in the transport plane. The Enola Gay was the name of the bomber that delivered it over Japan. It was a B-29 bomber.

LaBerge: Okay. Tell me the name of that again.

Morgan: Enola Gay. I'm pretty sure that's the name of the famous airplane that delivered it. That became known all over the world.

LaBerge: When that happened, did you then know that that was--?

Morgan: That's what we'd done. Yes, we knew right away after announcement by the president that an atomic bomb had been dropped.

LaBerge: Yes. Is that the moment you knew for sure?

Morgan: Yes. And of course, then there was all kinds of--coming back where I cut off--all kinds of celebrations up in Los Alamos, all over the world. But a lot of scientists had real misgivings, real misgivings, about working on a thing as destructive as they knew this was going to be. But they kept on working, knowing that the Germans were also working on some kind of atomic bomb. They knew if the Germans beat them, it'd be on us rather than them. I remember hearing that our intelligence in Europe knew about where the major work was going on up on the shores of the Baltic Sea. Our bombers went in on some very daring low-level bombing and bombed it, and bombed it out. So they got put out of business. They were working on heavy water rather than on enriched uranium.

Los Alamos was only one of several places working on the bomb. Oakridge, Tennessee, was where the big diffusion chambers were located. That's where the enriched uranium was produced. Hanford, Washington, was where the plutonium was produced. There were a lot of other places around the United States involved in one way or another.

High explosives was another important part of the bomb. The final shaping of these high explosive segments seemed to me to be too dangerous to be true. They cast these high explosives in molds and had to put them together in rows of segments in the form of a huge round ball. There's two rows of them, the inner circle and then the outer circle. They have to define the configuration of each segment in each row so that they fit together very accurately. They can't cast them that accurately, so they had to actually machine high explosives on a regular lathe--like your machine metal--machine explosives. To me, that sounded too dangerous to be true, but they did it.

## Scientific Explanations##

LaBerge: As you learned later--.

Morgan: The bomb, the initial one as tested and the first one dropped over Japan (Hiroshima, August 6, 1945) was in the shape of a sphere, almost a round ball, a perfectly round ball. The bomb actually dropped on Japan had outside fins and other hardware attached to guide the "freefall" after the bomb left the delivery plane. In order to detonate the core, the enriched uranium and plutonium, the force or the shockwaves from all these explosives wrapped around it had to get down to the exact center where the plutonium--it wasn't much bigger than your fingernail. All these shock waves from all around this huge ball of explosives had to travel through those explosive segments and get to that center point at exactly the same time, it couldn't be a millionth of a second off. Otherwise, you wouldn't have enough pressure to make the thing work.

So, that's what all these explosions were in the remote areas of Los Alamos, repeated time and time again, getting the detonating devices of the right length and the right size wire so that the resistance would all be the same so that all these shockwaves would get down to that point at exactly the same time. So, that was one of the real tasks and I don't know if there was a holdup or not, but that's why one group was working on explosives, and one group had been working on the electronic harnesses, one group working on the uranium and plutonium, and all compartmentalized. It should be pointed out that the second bomb dropped on Japan (Nagasaki, August 9, 1945) had an entirely different configuration. Let's see, I forgot my train of thought. [chuckles]

Anyway, the bomb was successful. When it was all over, these G.I.s that had been drafted from all over the country and sent up there to work on research, in engineering or on maintenance, depending on their degree, wanted to go home. Oh, I know. I was talking about some of the scientists that really--

LaBerge: That's right, had misgivings.

Morgan: --had real reservations about it. So, as soon as it was over, they figured their task was done. They went back to the universities, primarily from where they were on leave. Also it wasn't known right away whether Los Alamos would be continued or if they were going to just forget about atomic energy. Of course, in Washington, they soon determined that there had to be a continuation of the research work. It was not immediately known whether there was to be a great dismantling at Los Alamos.

I was offered a commission in the regular army, but I didn't want that. Rather I decided that I wanted to go on and get an advanced degree, not in engineering per se, but a combination of management and engineering. I wrote to many universities around the country, and they recognized the need but had no curriculum leading to such a degree. I'd been away from technical engineering so long I didn't want to crank up again. To get a degree in business I didn't have the prerequisites; it'd take me too long. So, I figured I would go back to Utah, from whence I came, and find me a job. Well, this same Jack Brennand that I had called in the beginning--

## IV POSTWAR AT LOS ALAMOS

### Staying on as a Civilian in Los Alamos

LaBerge: From El Paso?

Morgan: From El Paso. He asked me what I was going to do. And I said, "I don't know." I told him my story. "Well," he said, "Mr. McKee has been approached by the army to set up a maintenance organization at Los Alamos because the G.I.s are getting out of there; they don't want any more of it. Somebody's got to operate and maintain Los Alamos." And take care of--I don't know how many there--a lot of civilians (native population) up there, too, doing the jobs we've earlier discussed. He continued: "We haven't decided for sure whether we want to do that kind of work, but," he said, "I've talked to Mr. McKee and he said if Elmo Morgan will come and be our manager of this new company, McKee will take it on."

So I said, "Well, that sounds interesting." I reminded him of the conversation years before when I got him to come up to Los Alamos--I couldn't tell him how big a job it was going to get him into or how long it would last. He said he remembered that day very well. About this new job for me he said: "I don't know much about the work, but it'll be a big job. How long it will last, I don't know. How much I can pay you, I don't know. All I'll guarantee, it'll pay you more than the army is paying you." [chuckles] So, I said, "All right, that's a deal." I got out of the army as a lieutenant colonel and McKee still had his office in Santa Fe as a holdover from the construction. In fact, he still had a lot of construction work going on up at Los Alamos. So, until the Zia Company was formed, which really didn't take too long, I went to work as an employee of Robert E. McKee Construction Company in Santa Fe.

LaBerge: Shall we stop and then take up from here next time? I want to ask you a little bit more, kind of wrap this up, and then we'll go on to the Zia Company next time?

Morgan: Yes. The Zia Company, that's were I became acquainted with John Bowers--that's how I later got back to Utah.

LaBerge: Okay.

## Inactive Reserve Duty in Research and Development, 1946-64

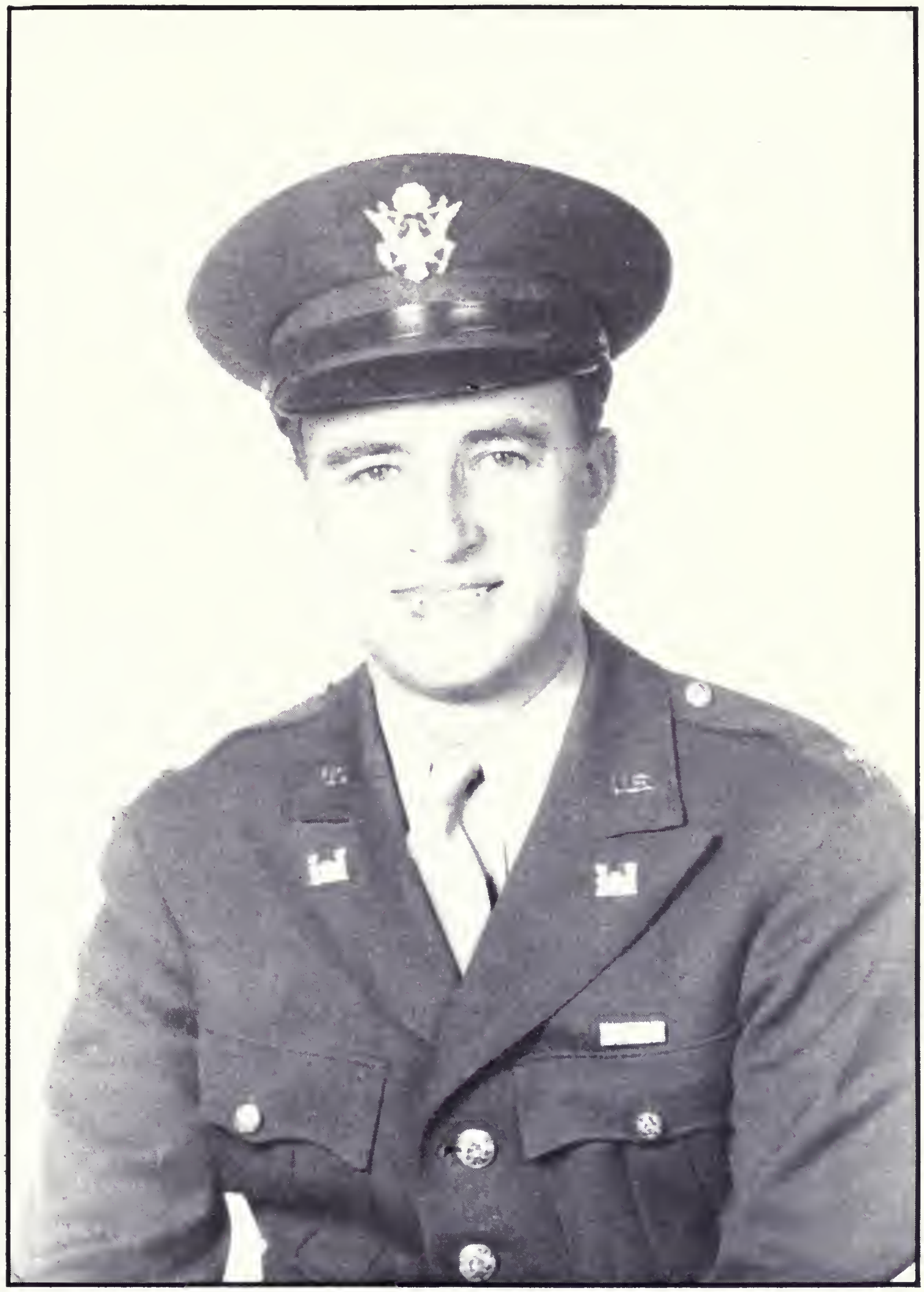
[Interview Three: March 25, 1991]##

LaBerge: The last time that we met we were finishing up with your army career in New Mexico, so I think you have a few things to add about that.

Morgan: Yes. I was offered this job to become the manager of a new company to be formed by Robert E. McKee Company to take over the operation and maintenance of Los Alamos, which I accepted. So, I went ahead and completed my tour in the army and was discharged at Fort Bliss, Texas, in February, 1946.

I was offered a commission in the regular army, which would mean staying in the army as a career. I declined that. I was not the least bit interested in it, although I had enjoyed and greatly benefited by being in the army. I decided I wanted to choose a different color tie than I'd been wearing all these many years as an officer, and have a choice of clothes to wear, too. So, anyway, I decided to stay in the army reserve and that turned out to be a good thing. I was assigned to, or, helped organize at Los Alamos a unit of the research and development branch of the army. This was a new program that the army developed following the war, because there had been so many officers assigned to research and development that they decided to continue fostering research and created these research and development units.

So, I was assigned to the newly formed unit at Los Alamos where I was going to be anyway. When I later went to the University of Utah, there was a research and development unit at Fort Douglas, Utah, which I became commanding officer of, and continued to serve as an inactive reserve. It required two weeks active duty each year, which was not difficult nor objectionable in the least because you're assigned to one of the army's research and development centers for the required two-week active duty training each year.



Elmo Morgan in army uniform, Los Alamos, circa 1945.

In New Mexico, I had become acquainted with a General Hertford, who later became chief of the Army R&D in the Pentagon in Washington, D.C. I kept in touch with him; we had become good friends in New Mexico. So, when he became chief of R&D he wrote and asked if I would like to serve on his staff as a reserve officer and take my two-week tours of duty as a member of his staff. I readily accepted, and had some very interesting assignments in Washington, D.C., in the Pentagon, at nearby research centers at Fort Belvor and Fort Dietrich, a rocket center down in Huntsville, Alabama, and several other places. After he retired I continued on the staff of General Gavin, who was of some fame with the 101st Airborne Division that parachuted behind the enemy lines on the Normandy invasion.

But, anyway, I continued as an inactive reserve. By this time I was a colonel, a full colonel, and there's a certain number of years you can serve in grade. You either have to get promoted or discharged. For a full colonel it was twenty-eight years, and I was nearing that magic number of years. General Gavin thought it would be a good idea if I became a brigadier general. So, my name was submitted and accepted and I had to go to the Command and General Staff School in Fort Leavenworth, Kansas, which I did. My papers were all in and I passed the physical and all the tests, and I was supposed to command an engineer battalion at the Presidio in California. When [Robert] McNamara became the secretary of defense, they started a reduction of army units to cut the budget. The engineer battalion that I was to command was one of those eliminated. So, the promotion process stopped but the retirement process didn't. [chuckles] And the retirement process overtook the promotion, so I was placed on the inactive retired reserve in--it's in here, somewhere [looks through papers]--July of 1964. I've continued in that status ever since.

The only significant date after that was in April of '73, on my birthday. I started drawing a retirement check and that turned out to be a very pleasant thing which has continued to the present and will do until I finally retire (expire!).

LaBerge: That's a good benefit.

Morgan: It turned out to be a very good benefit. The choice to stay in the reserve proved to be a very good choice.

LaBerge: So, during all that time you did this just for two weeks a year?

Morgan: Yes.

LaBerge: Did you ever have consultations during the year or on a weekend?

Morgan: Yes. We had to go to regular monthly meetings.

LaBerge: For a whole weekend or just one meeting?

Morgan: No, well, a night per month, and then two weeks. But the subjects assigned to us for our monthly meetings were in research and development and not in infantry or artillery or anything that--. So, we had some very interesting meetings and discussions and by and large, they were university faculty and university-related officers that belonged to these units. It proved to be very worthwhile and financially rewarding because during the many years the reserve officers, whether you're active or inactive, received the same promotions and increases in base salary and benefits as the regular army. So, it turned out to be a very good thing. So, that's the end of my military career.

LaBerge: Well, before we go on, was there anything particularly interesting in the research and development that you worked on in those years?

Morgan: No, not particularly. We were not assigned to projects; we just were kept apprised and kept current of developments that were going on. I remember distinctly when I was down at Huntsville, Alabama, a meeting with Werner von Braun, who was a German scientist that was in charge of developing the rockets used against England. He later came to the United States; I think he became a citizen. But anyway, he was down there, at Huntsville. And we saw the latest development in rocketry at that time. It was interesting, but no great exciting picture.

## Learning about Los Alamos After-the-Fact

LaBerge: Tell me this. After you'd been working at Los Alamos, when did you find out--after the atomic bomb was dropped--everything that you'd been doing all along? And how did you find out? Did they have a special briefing for you in Los Alamos?

Morgan: No. There were meetings that I attended. Of course, with the background that I and others had had, knowing about parts of it, it was fairly easy for us to put together, or piece together, information that was not so readily understandable by the public in general. Then, individually or collectively, we would each go back and associate things we had been doing and how they were put together would always result in the same conclusion, i.e., the successful development of the atomic bomb. To say the least, there were a lot of celebrations going on at Los Alamos. There was very little done for several days except to live in the glory of the achievements and accomplishments.

But, another chapter then began, and that was the chapter of uncertainty and not knowing what was going to become with everything at Los Alamos, whether there was going to be continued research on the atomic bomb or related fields. Nationally, there was a great movement to abandon the whole thing. There were also those who supported a continuation of the research to improve and develop bigger and better bombs. I'm not sure of the time intervals, but it was decided that Los Alamos would be kept as a research center.

Many of the scientists didn't agree with the decision, or even apart from that, had decided that as soon as the war was over that they were going to return from wherever they came, largely, universities around the different parts of the country. There were a lot of enlisted men that had been drafted that were scientists and engineers in their own right. They wanted no more of it after the war was over. They knew that they could do a lot better in civilian life than to continue in the army as an enlisted man. The top scientists, with few exceptions, were all civilians.

Some chose to stay there and--oh, I don't know how long it was after the end of the war--but Congress, or someone on a national level, decided that the army would not continue to be in charge of it, that the Manhattan Engineer District would cease to exist. A new commission, that would become known as the Atomic Energy Commission, was created to take over all the work and effort that the Manhattan Engineer District had been doing as related to nuclear energy. Then the people--not only at Los Alamos but elsewhere--went through the process of deciding individually whether they wanted to get out completely or become an employee of the Atomic Energy Commission or one of its contractors. There were many scientists who actually did continue on, knowing that it was going to be under a civilian control, and wouldn't be continued under the military control. The scientists' thinking, living, and direction and everything else is not too compatible with military discipline and life. [chuckles] Most of the scientists at Los Alamos were actually employees of the University of California.

That was evident many times during the war at Los Alamos, where the military was there in charge of things so far as housekeeping, support, logistics, and so forth, but the scientists at Los Alamos--as elsewhere--were under the guidance of Oppenheimer, who was in charge of the research. The friction occurred, when the military thought they were also in charge of the research.

At Los Alamos I personally know of two commanding officers who tried to give orders to the scientific people, i.e., the laboratory, in usual military fashion. They didn't last very long because Oppenheimer had a direct line to the White House in the person of Dr. James B. Connat. He had an office in the White House and was in charge of the total nuclear research effort. And it was but a day or two after that, the commanding officer who had committed the offense was on his way to the Philippines or Okinawa or somewhere. So, each new commanding officer had to learn his own lesson. I was not under the jurisdiction of the commanding officer at Los Alamos. I was under the district engineer in Albuquerque. So, so much for that part of Los Alamos.

## Transition to Civilian Life Under the Zia Company

Morgan: Anyway, the next part would be with the Zia Company. As I said before, a lot of the maintenance work, the engineering work, and the operational work in the laboratory as well as in the town, was being done, or staffed by, G.I.s that had been drafted; also some officers. The army itself--the Manhattan Engineer District--had employed hundreds of native people from towns as well as Albuquerque, Santa Fe, the Indian pueblos up and down the Rio Grande River, all around, to help with the maintenance work. All the janitors and craftsmen of all kinds, laborers, maids for the homes, cooks and everything else. There were hundreds of them. They were transported to Los Alamos every day in a fleet of buses. The question was what to do with them. As far as they were concerned, it was just one employer or another; it was not the same choice as with the G.I.s that wanted to get out of the army. They simply wanted to get out of the army. Some of them actually stayed as civilians, but most of them got out of there as soon as they could and went to wherever they had come from.

So, the Zia Company was formed to take over the maintenance and operation. That's the company that I was asked to manage. So, the contract was negotiated between the Zia Company and the Manhattan Engineer District. We assembled four or five key personnel to begin operations and the plan was to transfer everybody--not employed by the University of California in the laboratories--to transfer all of them over to the Zia Company as civilians.

The police function, the security function, continued under the military. The security function was never transferred to the Zia Company even after all military left and the Atomic Energy Commission took over. So, there was a phase-out of military and a phase-in of civilian guards after the Atomic Energy Commission took over. We established a--when I say "we," the small cadre of people of the Zia Company. I think there were, besides myself, five others.

Housing was scarce; we had a hard time finding housing at Los Alamos just for the five of us. But, we did, and I was--because of my rank, I guess--I was assigned one of the log houses in the so-called "Bathtub Row" that we discussed earlier. Housing was on an allocated basis within the University of California and within the military and later the Atomic Energy Commission and within the Zia Company. And they had a point system that was largely determined by your rank. So, housing was very scarce and I then moved my family from Albuquerque up to Los Alamos in, oh, probably March of 1946.

LaBerge: So that they lived with you in the log house?

Morgan: Yes, yes. It was a nice log house [chuckles], looking right out on what was called Ashley Pond, which was part of the boys' school. It was a spring-fed pond which was the ice skating rink for the boys' school in the wintertime and duck pond in the summertime. It was a nice little pond to look out on.

Anyway, the appointed day came when we were to take over all these employees. One day we had only the five of us as employees, and the following day [April 1, 1946] we had something like 3,900 employees. It was quite a transfer. We were busy processing employees and getting the paperwork straightened out. Life had to go on without any change, so they continued in their jobs. They just changed the place they received their checks from the army over to the Zia Company. And it was quite a transition.

Of necessity, the project had become quite self-sufficient over the years. There was a logging operation and a sawmill to provide their own lumber. They had a plant to make cement blocks, brick. Concrete batching plants, the garages, all the shops, and the whole kit-and-caboodle. So, we then had to find out what we had inherited, how best to organize them, and to pick up a lot of slack or laxness that had developed during the months following the end of the war, during the decision-making period of what to do and then finally, getting it done. No one really worked too hard during that period. Some of them developed habits that they learned to like better than working hard. They had to be, oh, not exactly retrained, but reoriented.

I remember distinctly a labor foreman we had--a Spanish American by the name of Francisco Martinez. We had borrowed him from the Robert E. McKee Company. He later became a good staff member and permanent employee of Zia Company. He spoke Spanish fluently. And I remember him getting up on the back end of a truck and really lecturing--

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LaBerge: He was lecturing to the Spanish-speaking laborers--.

Morgan: To tell them about the new organization and what was expected of them and what would become of them if they didn't produce. He was very friendly, but firm, and some of them didn't produce, so he got rid of them. It was quite a retraining program for a lot of them.

## Zia Manager for the Robert E. McKee Company

LaBerge: So, you were in charge of all the personnel, the hiring and the firing, yourself?

Morgan: The whole company. I had a man in charge of personnel [Frank Rogers]. I had one in charge of fiscal [Wendell Miller] and one in charge of maintenance [Sam Musser], one in charge of engineering [Richard Crook], and one in charge of design and construction [Leon Ross]. They were the--oh, another one was in transportation [Tim Sullivan]. Transportation was a big item because we had the whole bus fleet to continue in operation. I don't know, it must have been thirty or forty buses, went all over the valley, taking workers home at night, picking them up in the morning. So we had to continue all those operations.

LaBerge: And you were in charge of all those five people who did these different things.

Morgan: Yes, that's right. I reported directly to Mr. Brennand, the vice president of Robert E. McKee Company, and also to Mr. McKee himself. I, not to begin with, but later, I don't know, a month or two later, I acquired a deputy manager in the person of David McKee, who was old man McKee's--"old man" in quotes--son. The father was fondly known among all of his employees as the "old man." So, it's not a disparaging remark when I say "old man

McKee." David was the favorite son of, I don't know, four or five sons, who had just gotten out of the marine air corps, and was full of vim and vigor and needed a job, so his father assigned him as my deputy manager.

We had our moments of trial and tribulation because he was a gung-ho marine, a gung-ho aviator. He was younger than I, but age was relative then because we were both young. But he had some definite ideas how the company should be run, and they didn't fit what I had learned so far in my administrative work. So far as I knew, he had never had any administrative experience. He graduated in engineering and went directly into air corps training; he was actually in the marine corps for training. Well, anyway, we didn't have any fights, but he knew what family he belonged to and he liked to throw his weight around and let it be known that he was the old man's son. [chuckles] We sharply disagreed on a few items. And I said, "Well, look. Two of us can't run the company. It's up to your dad to decide whether you're going to run this company or I'm going to run it." He said, "Okay."

So, he would go home, down to El Paso about, oh, two or three times a month. He'd fly his own plane; he had his own plane. I remember distinctly when he came back one Monday morning. He came in; I could almost read what the answer was going to be, because he wasn't quite so cocky. He said, "Well, I talked to the old man about it, and you won. So, let's go on from here." And we did, and we were very good friends. He knew enough to take some orders from me after that. I don't know what his dad told him, but--. Well, Mr. Brennand, Jack Brennand, was at that meeting where Dave and his dad discussed it. Jack told me that there was no uncertainty nor hesitation in the old man's mind of who was going to be boss. He told Dave, by damn, he'd better get with it or he'd be transferred. [chuckles] Anyway, that was comforting to me.

LaBerge: I guess so, I mean, that was a real approval.

Morgan: It was, it was. No, I meant it. I wouldn't operate that way. That later became a--we'll come to it on the Berkeley campus, when I was working on the Berkeley campus. I had to get things straightened out, who was running it, who was running things. They did the same thing. There just can't be two people at the same level trying to run a company. Dave was very good; he was a good engineer. He was a good producer. Full of energy. We remained very good friends. The old man was always very good to me, very solicitous of my ideas. I perhaps was as close or closer to him than some of his sons were, I was to learn later. So, I got good support there.

Well, anyway, we proceeded to trim down the organization. Our first goal was to get from about 3,900 down to 3,300 employees, and then get down lower than that. I don't know just how far down we did reduce, but we had established new procedures. Soon after we took over, the army equipment man, a captain, came to me to get me to sign up for all the vehicles, a long list of them. I told him I would sign for only those that I could see and count. He said, "These are on the records. You've got to sign for them." I said, "No way am I going to sign for them unless I can see them." Which turned out to be a good response on my part, because the army had permitted the scientists to become pretty lax when it came to accounting for anything. The stress was so great and the need for scientists so great, that the general attitude of the army personnel and the support personnel both, all, was to do anything to keep the scientists happy and productive. It became very difficult at times to keep them happy. They were very demanding, not only in their laboratories, but in their personal life and at their homes.

A good many of them were mechanically inclined. And they wanted to fix everything in their house and make adjustments to the furnaces--it was central heating--make adjustments to the furnaces. Not all was in keeping with code. Not all was workable, that we found out many times. But, we were to make the corrections and smile at them and say nothing. Anyway, it developed later that they would go on trips in automobiles. The cars would break down en route somewhere and they would never bother to tell anyone; they'd merely catch a plane or bus and come home and leave the automobile wherever in the country it was that it broke down. I don't know how many, but there were dozens of vehicles we never did find. As the years went by we found some abandoned down in the bottom of canyons around there. They were never recorded; they were all ultimately written off, as they say in the army. They had to get off the record some way, so they were just written off by affidavit. We eventually closed--well, I shouldn't say eventually--quite soon, we closed the sawmill and the brick factory.

LaBerge: Because you didn't need it, right?

Morgan: Because materials began to show up in the civilian markets, and we could buy them. Then we began to get some new cars and buses and trucks to replace the old ones that were worn out. We had to set up maintenance shops. Maintaining the vehicles was a big item. There were no formal gasoline-dispensing facilities. So, we built a whole new service station, two of them. One for civilians and one for the support vehicles. And we had to make a lot of improvements. Let's see. Well, we also had to build a new power plant. This power plant that was hauled all the way from Texas in the early part of the--became overloaded, so we had to build a new power plant.

LaBerge: With new parts?

Morgan: Oh, yes. This was entirely new [chuckles], right from the factory, all put together.

LaBerge: But that's amazing, the story of the other plant. What you did and that it worked.

Morgan: The old one was kept in service some time after new ones came on line because it took all of them to handle the increasing load. And until its dying day, the old original power plant had its "thud, thud, thud."

## Deputy Manager for the Atomic Energy Commission, 1947-1951

Morgan: I'm not sure when Congress authorized the Commission, but they had to get organized nationally and get managers appointed at all the places, many of them throughout the country, the three principal ones being Los Alamos, Hanford, Washington, and Oakridge, Tennessee. So, they finally appointed a manager, a civilian manager, at Los Alamos by the name of Carroll Tyler.

LaBerge: Is this a man or a woman?

Morgan: A man. He was a retired navy captain. He was in the regular navy and had recently retired. He'd had a career in the navy working with civilian scientists and research and development. He was not a seagoing captain. He was chosen by the Atomic Energy Commission to come out and be the first manager, the first civilian manager, at Los Alamos. He took over what the army had been using as staff, and a lot of those were still in the army and were going to be transferred, so he had to build up a civilian staff of his own.

Being manager of the Zia Company and one of his principals in charge of operation and maintenance, under contract, of course, I met him when he first came there. Soon afterward, I was asked if I would be interested in becoming his deputy. I talked it over with Mr. McKee and Jack Brennand. They agreed that it would be a good thing for me personally and that they would release me from my assignment as Zia manager if I wanted to accept the job.

I did accept the job, and had to go back to Washington, D.C., to be interviewed by the general manager of the Atomic Energy Commission, a man by the name of Carroll Wilson, another Carroll. I distinctly remember my wife and I starting out in the car and driving to Washington, D.C., for me to be interviewed. We purposefully wanted a little vacation, so we had planned it as a dual purpose trip. So, I came back and I became the deputy manager for the Atomic Energy Commission in 1947.

I remember soon after arriving back at Los Alamos after getting assigned my new office, right next to the manager, one of my first visitors in my new job was a fellow by the name of Frank Diluzio. He had been up there at Los Alamos for a long time as a G.I. He was a good engineer. I had become acquainted with him and worked with him while I was still in the army. Then he got out of the army and stayed there as a civilian, on the operational side. He became the contract officer that administered the Zia contract. So, he in effect was my--when I was manager of the Zia Company---was my boss. When I became deputy manager of the Atomic Energy Commission we switched, and he became an employee of mine. So when he came in to see me to congratulate me on my first day of work as a deputy manager, he gave me a hearty handshake and then said, "This just goes to show that you'd better be good to even the janitor; he may be your next boss." [chuckles] We'll come back to him later. We remained very good friends, and he actually succeeded me--oh, there was one other between us--but he later became the manager at Los Alamos.

Then he went to work as an aide to Senator Clinton Anderson from New Mexico and moved to Washington, D.C. And when Congress authorized what is now the Clean Water Act, it was known by "Water Pollution Control" when it first started out, but it's now been changed to the Clean Water Act. When Congress first started that program it was assigned to the Department of the Interior for administration. The Secretary of the Interior, Stuart Udall, picked Frank Diluzio to be assistant secretary to administer the water pollution control. After he became Assistant Secretary of the Interior--by that time I was at the University of California--he called me to see if I would come be his Deputy Assistant Secretary of the Interior, which I did. We'll come to that later.

LaBerge: Right. So, it all comes back to this. His name sounds familiar to me.

Morgan: Frank Diluzio?

LaBerge: Yes. Probably his name has been in the paper.

Morgan: Well, he had quite a bit to do with the continuation of the government contracts with the University of California at Los Alamos, first as a G.I. and even years later, after he was a civilian. So, he came out to Berkeley quite often; whether you met him or not, I don't know. He worked quite a bit with [Robert] Bob Underhill, who was secretary of the Regents. I inject this little bit to show how one thing leads to another. [chuckles] So, let's see.

LaBerge: So, we have you just beginning as deputy manager.

Morgan: At Los Alamos. And, of course, the manager for the Atomic Energy Commission at Los Alamos was in charge of everything, not only what Zia Company was doing, but also all the work that the University of California was doing, as well as all of the security. So, as his deputy manager, I got involved in all of those operations, including those of my old company. All during the war years and during the time that I was with Zia Company, I became well acquainted and worked closely with the laboratory people, the top scientists, and the security people, also. So, it wasn't like coming in as a stranger. I had developed a good working relationship with Dr. Norris Bradbury, who became director of the laboratory after Oppenheimer left. I had established a good relationship with him while I was the manager of the Zia Company, and with many of his top people. So, we had a lot of friends by then.

It was quite a closed society, "closed" in quotes. Security had been very strict during the war in terms of admittance to the project at all. There was a fence around the entire project, some 64,000 acres. And there was only one main road into the place, and it had a guard gate manned twenty-four hours a day. Everyone had to have a pass, including children who lived there, six or more years of age. All the maids, the janitors, everybody had to have a pass. When Zia Company took over, they instituted a new system of passes with new numbers, all prefixed with a "Z" for Zia. All earlier passes including those for the laboratory had to be reissued. Being the manager for Zia, I had badge "Z 1." It is presently in the museum at Los Alamos, that "Z 1" badge. [chuckles] So, that's about the only honor I have in the museum at Los Alamos. Even the Atomic Energy [Commission] people, Captain Tyler himself, had to have a "Z," everybody had to.

LaBerge: So, did you keep your "Z 1" badge when you started working for the AEC [Atomic Energy Commission]?

Morgan: Yes, but when I later left the project I had to surrender the badge. Our second son, Tony, was just a--I don't know, I think he was about three years old--he felt so bad that he couldn't have a badge that my friends in the security division took him down to the pass office and gave him an unofficial badge. They held him up high enough to see the camera, took his picture and made a badge for him. He was so proud of that; he probably still has it. He was really proud of his badge, but he wasn't old enough to have an official one.

## Replacement and Expansion at Los Alamos

Morgan: After the Atomic Energy Commission took over and got its feet on the ground, there was an awful lot of rethinking to do; it had been definitely decided then that Los Alamos would become a permanent installation. Their mission had been generally outlined--I use the word "generally" purposely because it was just general--but it would be a continuation of research into nuclear science. And because it was going to be permanent, a lot of the temporary housing had to be replaced with permanent housing. A lot more housing needed to be constructed, both replacement and expansion. Some of the laboratory buildings had served their original purpose, but for the intended future work, needed to be replaced with more durable, more permanent buildings. For some there would be different functions for the future.

Also, Los Alamos started only as a very small enclave of scientists with very few buildings. So, the major technical buildings as we called them became known as the "tech area"; tech area was the name applied to all the area where the research went on. But, some of those buildings were built right next to the living quarters in town, in order that we could get them all on the same mesa. To get across the mesas, they were so deep that you had to go way up to the head of the mesa and back again on a road; you just couldn't go from one to the other straight across. Although later we built a bridge across one of them to get over to a new area where the new tech area was to be built. So, there was a lot of construction to be done. It was a huge undertaking of engineering and architectural design. Additional water supplies had to be developed. A new waste disposal, totally new area for the main laboratory--the new tech area--it was quite an undertaking of a project. I don't know how many millions of dollars, but it was a big job.

## Building a Bridge across the Mesa

Morgan: As I just said, the new tech area was on the first mesa south from where it was initially located. So, we had to build a bridge across this deep canyon rather than going up one side of the canyon and down the other side. It was to be a steel-arched bridge. We designed it, or had it designed, for four lanes. We had to get it approved in Washington because it was a new idea, and not everybody agreed a bridge was the right solution. It was too easy to blow up, and if it got out of commission, all kinds of things might happen. The pessimists were all over the place. But, I remember I was the one who took it to Washington to get it approved. In their great wisdom, they said it was too expensive, and even so we didn't need a four-lane bridge, there'd never be that much traffic to justify it. Finally, they said they would approve a three-lane bridge, which would provide a passing lane in addition to the two traffic lanes. I remember distinctly coming back and telling Captain Tyler what the decision was.

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LaBerge: You were just saying you came back from Washington and you were going to tell Captain Tyler about a three-lane bridge.

Morgan: Yes, of course he was interested right away what the decision had been and when I told him, he started pacing. He loved to pace whether he had anything to pace about or not. And he used some pretty strong language that I can't repeat here, but to say the least, after thirty-five years in the navy, he learned some good words. But anyway [chuckles] he said, "We'll show the so-and-sos. We'll build the three lanes. We'll make each of the lanes wide enough that we'll end up with four lanes, anyway." So, we changed the dimensions on the lanes and the bridge got built wide enough to really make it a four-lane bridge, which turned out to be one of the best decisions we ever made. Even some of those in Washington thanked us later for doing it, because it wasn't too long after completion that some of our critics were saying we should have built a wider bridge to begin with.

LaBerge: Well, because later on you could just change the markings, right?

Morgan: There are four lanes, each capable of carrying its own line of traffic. Two each way, or in the rush in the morning going over, you could have three one way and one back, and then reverse in the afternoon. But, at least we ended up with a bridge wide enough. We, of course, never told them about it. After it was built and people came out and looked to see what we had done, they learned about it then, but it was too late. They didn't say anything. I remember that distinctly. As just stated, some actually thanked us, unofficially of course.

Carroll Tyler was a great person. I learned a lot from him. He was a good administrator. He delegated very well, almost completely. But, delegation is one thing, abrogation is another. He never did abrogate. He'd follow up, expect you to produce, but he was a very good man to work for. He got on with the scientists very well. I'm sure that's one of the reasons he was picked for the job. He had worked with--as I have stated earlier--he had worked with civilian personnel on research projects during most of his navy career. He knew when to zig and when to zag as far as trying to be their boss or not to be their boss. But they knew who was boss, and then they respected him. It was quite different from some of the military commanders, but it was even more amazing that here was a retired navy captain who was chosen to be the manager of this rather sensitive civilian research center.

LaBerge: Would you say you were doing mostly administrative work rather than any of your engineering?

Morgan: Yes, it was totally administrative. Of course, I had all of the engineering under me. There was an engineering division; there was a construction division. They worked under me and I worked with them a lot, but it was purely administrative. By this time, the engineering techniques and design phases had passed me by. I was definitely a paper-pusher by now. But, I couldn't have accomplished a good bit of my work without the background to know what was right and what was wrong--the same as it turned out to be later, at the University of Utah and the University of California. You simply have to have the background to understand when the wool is being pulled over your eyes and when it's the real stuff. [chuckles]

[Before getting into the major changes that resulted in largely the rebuilding of Los Alamos, there was one assignment that Carroll Tyler gave me that in a way overshadowed other assignments, at least in retrospect and of historical significance. There was a requirement from Washington, D.C., initially from the Manhattan Engineer District and later from the Atomic Energy Commission, that there must be a monthly inventory of all atomic weapons owned by our government--at that time, in the entire world. I was assigned this task along with a fellow from AEC security by the name of Jack Hart.

So once a month the two of us would fly in a chartered plane to travel to the various locations where the nuclear components were stored and actually count them. Of course they were not assembled, and the components were separately and safely stored--but not all in the same area or even the same part of the country. To begin with the numbers were small, but they did grow as research and production continued.

The storage places were a secret and closely guarded. Our reports were Top Secret and "for eyes only" of specifically named people. This method of inventory was still being used when I left Los Alamos, but later changed I'm sure. It was still a real experience and often Jack and I would have visions of being kidnapped by someone trying to get the information we had. But we lived through it.][1]

## Changing Los Alamos into an Open City

Morgan: As the military departed and as the end of the war faded away into the background, the town--they tried to make the town of Los Alamos more and more normal in every way. They lifted some of the restrictions into the town and eventually did away with the guard gate at the entrance, so there was free access to the town. Not to the technical area, but to the town. Removal of the guard gate actually happened after we left. Eventually Los Alamos became a county by itself in the state of New Mexico. The town of Los Alamos and the county of Los Alamos were all the same, just like San Francisco and other places.

And also eventually, what went along with removing the guard gate, Los Alamos became an open city--let's call it a city by now because it's around twelve, fourteen thousand people by now. But, there were a lot of steps before it became an open town. One of which, the residents decided they wanted a town council to talk about matters related to life in Los Alamos that had nothing to do with the technical area. So they had a town council. Since the town government was directly under me, I, in effect, became the mayor of the town. [chuckles]

LaBerge: This was just by virtue of your being a citizen, right?

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[1] The bracketed material was added by Mr. Morgan while editing.

Morgan: By virtue of being the deputy manager of Los Alamos and also being a resident there. They had some employees. They greatly expanded the library and they had all kinds of clubs that developed. Permission was granted for churches to build their own buildings--two, three churches. There had been a church all during the war, a nondenominational church. Anyone who wanted to go, could. They had different times for different religions to have their services. But after the war, they permitted other churches to build or rent up there, rent buildings.

## Housing, Then and Now

Morgan: And we developed an entirely new housing area called the "western area." The houses were all going to be one-story. They were all going to have bathtubs. Most were single homes, but many of them duplexes. The same architect that had done most of the work during the war, W.C. Kruger Associates, was assigned to do the architecture work on these western area houses. It was in a huge clear area, west of the original town. That's where it got its name, the western area. Most of those hills are pine-covered, or covered with pine and juniper and cedar. But, this was a large pasture area that became the building area, very little clearing to do.

I remember on one trip, General Groves--this is when the military was still in charge. It was after they knew that there was going to be a permanent place, but the military was still in charge. General Groves, on one of his trips out there, among other things, was to approve the plans for this big new housing area. There was an architect by the name of Max Flatow, who was overseeing the work. He was a registered architect, but still in the army there. He was overseeing the work of Kruger, and the design. I recall that at the meeting we had in a room in the lodge, which was the lodge during the boys' days, Max unrolled the plans for General Groves to look at.

The plans showed a mix of one-, two-, and three-bedroom houses with two baths in some of them. And he said, "You've got to cut costs some way, you've got to cut costs some way. When I was growing up, we never had more than one bathroom. Cut that other bathroom out." [chuckles] Max Flatow, Lieutenant Flatow, was trying to explain why you needed them and it'd be good to put them in. General Groves turned to him, and, of course, here was a major general talking to a first lieutenant and he said, "What's your background? What are you talking like this for?" or something like that. Max responded that he was an architect which didn't impress the general at all who then said: "Oh, that doesn't mean anything. One bath." So, that's how we ended up with one bath. [chuckles]

But anyway, they were built, and we were one of the first to move into one of them. We moved from our log house up to this brand new house. We were right on the edge of the pines; there were some big pine trees right in our front yard. We were up high enough to look out over the whole Rio Grande Valley and on beyond to the Sangre de Cristo range of mountains. It was beautiful.

That was a big event--the entire western area covered with new houses. It practically doubled the number of houses available. No, we didn't do away with the old originals. The housing was assigned on a priority basis, pretty much on your rank and responsibilities. But those who moved up into the western area made room for a lot of others to move up to the hill.

LaBerge: Was housing a part of your job, or did you have to pay rent?

Morgan: Yes, we all paid rent but a very nominal amount. Zia Company provided all the maintenance and operation of the houses for the entire project. The Atomic Energy Commission, the federal government, assigned people to the houses and actually signed the leases with the tenant. You could only lease them then, rent them. The rent was paid to the housing office of the federal government. The housing office per se came under my jurisdiction as deputy manager, but the actual maintenance came under the Zia Company, I mean the plumbers and the electricians and yards. It was all landscaped. They planted grass to begin with. It was just a big expanse of housing--there were no trees in the western area to begin with except the native pine trees. So, they had a professional landscape architect who planted ornamental trees and shrubs and as we went back in later years from time to time, that was the biggest noticeable difference. This once denuded area with no trees or shrubs or anything in sight was being softened and mellowed by trees that had grown above the roof lines, and the shrubs that were covering up the foundations. That was the biggest noticeable difference.

Then later, of course, we outgrew that mesa and moved to other mesas that became known by different names, and expanded and expanded. Then, after it was made an open town, the Atomic Energy Commission decided to sell the homes to the people. That's about the time we left Los Alamos. So, we never did buy one. This was an effort to get out of the housing business and the nursery business and everything else. Make it more of a normal community. So, the person living in the house at the time had the first choice of buying the house. They developed some formula--I don't know, I've forgotten what it was--that all of a certain type was priced at a certain price. One bedroom, two bedrooms, three bedrooms, and they were bought very, very cheaply, by comparison with what the market on the outside was.

Oh, I should add that even before--probably a year before they let the tenants buy the homes--they decided that they would, on a very selective basis and at government expense, add another bath and bedroom onto some of these homes. The house where we were living, the people who subsequently lived in it, added an extra bath and a bedroom. Thus General Groves' deleted bathroom was coming back to haunt him. His days of authority had long since passed. So, those that had been added to in one form or another commanded more rent, but not too much more.

Then after people were allowed to buy homes, they were also allowed to build their own homes. So, a permit system was developed. The government would sell them the land and then they would build their own homes, hire their own architect. Everything up to this time was of the same design within groups and some with little or no imagination. So, from this rather consistent and somewhat monotonous design throughout Los Alamos, the whims of the individual really blossomed when they started building their own homes. [chuckles] If you were to go to Los Alamos now as we've done, and drive around, you'll see everything from Southern colonial mansions to ranch houses to everything imaginable. Also, people were then permitted to remodel the houses they had bought, remodeling to suit their own taste and at their own expense. Some of the remodeling that is going on is very well done, and some of it is something to behold. [chuckles] It makes a very interesting tour to drive all around these mesas looking at those houses now.

Also, at the time they sold the houses to the tenants, they sold the land with it, and the new owner became responsible for all the landscaping. And here again, there's a great transformation from a well-maintained area by the government to doing nothing, letting the weeds grow, to very fancy landscaping of all kinds. It's really a hodgepodge. Public areas, that is, the parkways along the roads, which were still public property, have not been kept up, I guess primarily because of budget; although the federal government pays to the county of Los Alamos a certain amount of money on some formula. But the county has other places to spend it, rather than on maintaining the roads and sidewalks and parkways and so forth. So, it's kind of a sad picture to go back and see all of this. Some of the places, they're the private places, are totally unkept. Some are still well kept. So it's an interesting place to go back to, for us.

LaBerge: But, the whole time you were there it was more of a closed--.

Morgan: It was. Well, the gate was removed about the time we left, but selling the homes and the real estate to people occurred after we left.

LaBerge: I wanted to ask you something you talked about last week, but it wasn't on tape. You started to talk about some of the native workers. One who was an artist, and you've got several of his pieces? I don't want to forget any of that part of the story.

Morgan: Oh, yes. You remind me. Concurrent with building a new housing area, this is after the Atomic Energy [Commission] took over and after it was known there was going to be a permanent town there, we undertook the design and construction of a central shopping area right up at Los Alamos. All during the war we had only a commissary for food and a post exchange for other things, run in a typical army style. And we had a theatre, post theatre. So, a new shopping center was to be a real step forward. It was built in Spanish-American architecture style around a quadrangle. In fact, the lawn in front of the lodge of the old boy's school flowed right into the quadrangle. And we had a brand new theatre, a shoe store, ladies' ready-to-wear store, drugstore, a brand new grocery store, a very modern one, a jewelry store and quite a few other stores. So, this was quite an event--and a new post office. By this time, all houses had street addresses in the normal manner. Before there was just one post office box for all the residents. There was also an auto parts store, and a civilian garage and service station. Today there are a lot more; there's a big proliferation of fast foods and motels, well, there are three motels, I think. In all of this we also built a Boy Scout lodge [chuckles], which was a pet of mine.

## Native Workers and PoPoviDa

Morgan: As I've indicted before, a lot of people out of the pueblos worked up there as maids in the public places, maids in homes, and clerks and typists. There was a fellow who worked in my organization from San Ildefonso Pueblo, right on the Rio Grande River, one of the first ones you'd come to as you go down from Los Alamos toward Santa Fe. His Indian name was PoPoviDa, but his Christian name was Tony Martinez. Indians were given Christian names by the Catholic Church after the Spanish came north from Mexico about 1600 A.D. and "converted" the Indians to the Catholic religion. His mother and father were both great potters, Indian potters, Julian and Maria Martinez. He predeceased her and Maria kept making pottery for many years. The school classes all went down at different times and she would put on an exhibition of pottery making for all the children. We became acquainted with her, and bought a few of her pieces of pottery that are all museum pieces now.

LaBerge: Did she use an Indian name, too, as an artist?

Morgan: No, she signed it as "Maria." Her pottery was signed as "Maria." But, PoPoviDa himself, I'll call him Tony; Tony was a good artist in Indian paintings and pottery. We have some of his and we have quite a few pieces of pottery from Maria, but we wished we had bought more, now. But when I became deputy manager for the Atomic Energy Commission, I, of course, had my picture taken for the local paper. Tony was quite an entrepreneur in his own right. He conceived the idea of having my picture taken with one of his paintings and pottery on my desk. So one morning when I came to work, I thought I was down in an Indian pueblo. [chuckles] And, he had a lot of pictures taken, I guess I have some, they made the papers, and so he got a lot of free advertising.

LaBerge: What did he do for you, his job?

Morgan: He worked out in the supply section, in the tech area supply section. He was not trained as an electrician or any craftsman at all, but he was a good, steady employee. He later became the governor of his pueblo, and he established a store, a retail outlet store, which still exists. It sells all kinds of Indian jewelry and pottery in San Ildefonso.

## Filming at the San Ildefonso Pueblo

Morgan: The motion picture industry made a motion picture there at San Ildefonso called "Four Flags West."

LaBerge: It sounds familiar.

Morgan: I believe that was the name of the film. Anyway, Tony was a big operator, I don't know that he appeared in the film, but Linda Darnell was the--

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LaBerge: Okay, Linda Darnell was the leading actress.

Morgan: Actress. I don't remember the leading man but it's only natural I would remember the leading lady, I guess. But, also, a very good friend of ours in Los Alamos by the name of Mitzi Rosenberg was a stand-in for Linda Darnell. Tony was very much in evidence squiring the top people around, driving them around, including Linda Darnell. They needed some scenes with Indians on horses. They had plenty of Indians and they found horses from the nearby ranches, but these Indians couldn't ride horses. [chuckles] So, they got some local cowboys to come ride the horses and in close-ups when they needed pictures with Indians, they put Indians on the horses. But, these were not horse-y Indians.

Tony is now deceased, but he and his wife were good friends of ours. Our maid, we had a maid who was from the San Juan Pueblo, I'll think of her name in a minute here. We've seen them; we've kept in touch with them. For our fiftieth wedding anniversary we took our children and their spouses on a trip to New Mexico and, of course, one of the places that we visited was at Los Alamos. We invited our maid and her husband, Reycita and Preston Keevama.

## Family Memories from Los Alamos

Morgan: Reycita Keevama. She was our maid, and our children, of course, remember her very well, especially the two older boys. Our second son was born in Albuquerque, our daughter Nancy was born in Los Alamos. Reycita helped take care of them and when we'd go away, she'd come and stay with them. But anyway, when we were back for our fiftieth anniversary in 1987 we had a dinner at Los Alamos and invited Reycita and her husband to come up from the pueblo, which they did. And a few old friends from Los Alamos. We had a dinner in an inn at Los Alamos. Reycita came dressed in her native costume and told us all about her wedding ceremony in her husband's Hopi village. I don't know that has a place in here, but the children were very much impressed with her and her native costume and telling all these stories. I would say that would be one of the highlights of our trip.

LaBerge: Someone should have taped her story.

Morgan: Yes. We have pictures--our son, Tony, had a video camera and took some video of it.

Let's see, where did that leave us?

LaBerge: Well, you started talking about the different native workers. And so you talked about PoPoviDa and then Reycita.

Morgan: Well, after the county was established, we, of course, had county officers and county commissioners, like a standard county does. Some of the Zia people, and the AEC people as far as that goes, became officers. It didn't take long for politics to get established in the usual fashion. [chuckles] It came together quite well and it began to function quite well. They had a district attorney. They had their own police from the county. The Atomic Energy police were assigned only to laboratories; they'd withdrawn from the community. Carroll Tyler retired (again) in 1950 and I succeeded him as manager at Los Alamos for the Atomic Energy Commission.

## Effects of Radiation and John Bowers, M.D.

Morgan: That just about does the Los Alamos portion, except during my time there with Zia and with the Atomic Energy Commission, we had frequent visitors from the Washington office. A big program got started after the war to study and better understand the effects of radiation on the human body.

LaBerge: Good. Is this Dr. John Bowers?

Morgan: Yes.

LaBerge: Oh, good.

Morgan: And as I had indicated earlier, we transported the cattle from the ranch, from the test site at Trinity, up to Los Alamos for further study, because that was by far the biggest animal for study that they had. They'd, of course, done a lot of experiments on mice and rats and rabbits. But here were some full-blown critters that--I should say "full-grown" [chuckles]--that had a full-blown dose of radiation as a result of the cloud that drifted over these cattle on the ranches generally east of the test site. And it had changed their color. With these live animals of that size, radiated as they had been, there was a lot of national attention.

So, a lot of the M.D.s working in Washington and elsewhere would come out there to study and to participate in seminars and to learn of the progress being made. They had a very active health division within the University of California laboratories there, studying them. On some of these trips, a doctor John Z. Bowers, who was in the health division of the Washington office of the Atomic Energy Commission, came out. He came out on several occasions, and I got very well acquainted with him.

As time went on, this turned out to be my connection to going to the University of Utah. He was a civilian doctor, an M.D., and left the Atomic Energy Commission to become dean of the College of Medicine at the University of Utah. He continued on as a consultant to the Atomic Energy Commission, and even after he became the dean at the University of Utah he paid visits to Los Alamos.

By this time, the University of Utah--let's see, I'm not sure when it occurred--but anyway, by this time the University of Utah had a new president by the name of A. Ray Olpin, who had come from Ohio State University, where he was director of the research foundation, a separate corporation doing research of all kinds and among other things, I'm sure, some associated with nuclear physics. He himself was a physicist. He was a very strong research person, and he brought to the University of Utah many prominent research people in physics and chemistry and medicine. And I'm sure this is what attracted him to Bowers; Bowers was a research person in medicine.

They were changing the medical school at the University of Utah from a two-year to a four-year school. President Olpin wanted to build a strong research element into the new College of Medicine, and John Bowers was his man. When John Bowers came to the University of Utah, he found that they were not too well organized, administratively, to handle it. Most of the research had to be funded by some external source, by and large the federal government, including the army, the Atomic Energy Commission, and others. So, it meant contracts to be negotiated, contracts to be administered, accounting to be set up, properly oriented to research projects. John early on found out that there was not much of an administration in place to handle this kind of work at the University of Utah.

# V UNIVERSITY OF UTAH, 1951-1958

## Transition to the University of Utah, 1951: Coordinator of Cooperative Research

Morgan: So, on one of his visits to Los Alamos, he asked me if I had ever thought of going back to Utah. I told him I surely had. He said, "Well, I think I have got a job for you." And he explained what it was. My wife and I were both anxious to get back to Utah, where our families were, in or near Salt Lake City. While we were thoroughly enjoying our work and our life at Los Alamos, it was quite different. The town had not yet opened up. We knew it was going to be an open city, but there were some limitations. It really wasn't a place for us to develop good family roots. So, we didn't have to be coaxed very much to consider the opportunity of going back to our "home country" in Utah.

Well, not too long after that, I had a call from President Olpin's office, to see if I could come up for an interview, which I did. They didn't have any vice presidents at the University of Utah at that time. So they needed a title to fit the work I was to be doing. They decided they would call all of the research being done on the campus, cooperative research, whether in the school of medicine or chemistry or physics or wherever. They had to be a little bit careful in selecting a title that didn't sound too authoritative, because the doctors and Ph.D.s didn't like a high-sounding title for an administrator. So I remember President Olpin thought for a while of a title of "director of research," but we finally settled on a title of "coordinator of cooperative research." So, that was to be my title and I was to operate directly under him, report directly to the president, which I did. We left Los Alamos and moved up to Salt Lake City in October, 1951, bought a house, and I became a full-fledged employee of the University of Utah.

LaBerge: Had you already been looking for other jobs? Were you looking elsewhere to leave Los Alamos?

Morgan: No.

LaBerge: This wasn't just sort of a lucky--.

Morgan: No, we really hadn't--oh, I'm sure there had been some discussion in our family that if something came along, we would seriously consider it. We didn't feel like Los Alamos was a permanent place because at that time you couldn't own your own house. You couldn't put your roots down anywhere, so to speak.

I found John Bowers to be very helpful. He had some very prominent researchers under him who were very temperamental. I remember two in particular: a Dr. Max Wintrobe, who was world renowned in hematology; and a Dr. Louis Gebhardt, who was also world renowned, I was to discover, in pharmacology and immunology. I distinctly remember my first meeting with them, their welcoming me with open arms to help improve the blankety-blank administration [chuckles] in the university so far as servicing their contracts and taking care of their housekeeping needs. I became very close friends with them, and I was very careful to see that their needs were fully met. Through their efforts, the school of medicine essentially adopted me as one of their sons.

LaBerge: Did you have to do building for them, too?

Morgan: Well, at that time, no. There was very little building on campus. Later, yes. But, I worked initially to get the basic and proper files set up and the contracts all in one place--research projects--and accounting procedures set up so we could tell how much they had spent and for what under their contract.

LaBerge: This is where your accounting class came in handy.

Morgan: Yes, my accounting class came in handy. Purchasing was not being done with a strong orientation to meet their needs in terms of getting the right thing at the right time. We corrected that and their orders were processed by a designated person who learned and understood their language, and also, who was their expediter. The things that they wanted in a hurry got to them in a hurry, and they were most appreciative. For me, it was just like shooting fish in a barrel, to take care of their needs--and mind you, to be thanked for it. So, they in turn began to thank the president.

LaBerge: For hiring you.

Morgan: Yes, they were saying: "Hallelujah! We've got a savior." So, this put me in good stead with the president.

## Funding for Research##

[Interview 4: April 9, 1991]

Morgan: I was not involved in any research of my own, but rather administered all the various contracts--and by and large these contracts were funded from outside sources, mainly the federal government. However, some academic departments had research of their own that had nothing to do with outside funding, and they didn't want any central administration involved in telling them how to do their departmental research. So, we purposely called it "cooperative research," meaning, generally, there was an outside funding source. The outside funding source--nearly always, maybe 100 percent--required reports and especially accounting reports for funds allocated for certain research. They all had certain prescribed rules and regulations for expenditures and types of things you could and couldn't buy. We had to make sure we lived up to the terms of the contracts we had with the federal government.

LaBerge: Did you have to negotiate those contracts, too? With the government?

Morgan: Yes. Yes, we had to negotiate them. And one of the things we negotiated, of course, was the overhead that has now become famous, or infamous, at Stanford University. So, while I'm out of date, because rules change over time, I'm very cognizant of the problems that Stanford must be having and the problems they've got to straighten out. You work with the government representatives. The university is always in the position of wanting the government to pay for all you can get them to pay for, but it depends on what government auditor is assigned to your particular university as to how successful you are in getting them to pay for things. Anyway, that was part of the negotiations.

So, I don't know how many of these contracts we had. The number was continually increasing. Initially, the big percentage of them was in the College of Medicine because there seemed to be more federal money available for research in medical fields. The second largest would be in the physical sciences--chemistry and physics--because there was more and more emphasis being given to the progress that had been made during the war in physics, chemistry and nuclear energy, in particular.

LaBerge: And this was the time of Sputnik, too, wasn't it?

Morgan: Sputnik came along, and that really made a big spurt in federal funds. So, physics and chemistry became heavily funded. It grew rapidly. The project director under each of these projects was very happy to have someone do the administrative work for him. They were happy as long as you kept them happy, and that was an art all of its own to let them be in charge, which they really are, or were, and should be. But, yet, exert enough control over them that you could live up to the terms of the contract.

LaBerge: How did you do that? What was your method?

Morgan: [chuckles] I don't know. It's personalities, or chemistry between people as much as anything. You soon learned in my position that you had to get along with the scientists, which I had been having to do at Los Alamos for quite a long time. What it really amounts to, is you know when to zig and when to zag; also, to sense when you have to put your foot down and when you would like to do something but you know it really doesn't matter that much, so, don't stir up a fuss. I must say that you work out a relationship a little bit different with each scientist, and it becomes truly a cooperative thing. As soon as they understand that you know what you're talking about and don't intend to get over in their field too much, they're happy about it. It was a very rewarding experience, to build up a system and to work with them. I can't recall any difficulties that we had that they had to go talk to the president about.

LaBerge: Would they apply for the grant and then you'd negotiate the terms, or how did that work?

Morgan: They would apply for it. Of course, they would only write up what they proposed to do, and their method for doing it, and the background, and the facilities that were already in place, and whatever added facilities were needed. They would write this part of the application and send it to my office for review, but not a technical review, but rather to add the administrative part to it and the proposed budget. They would outline the budget, but I would have to fill in a lot of the details and then apply the overhead. The overhead was determined once a year, so once it was determined, we used the same overhead for a year. If you made a mistake, you lived with it for a year. One of the major projects, research projects, was out at the army's Dugway proving ground. That's about thirty-five miles west of Salt Lake City, where they were doing a lot of work on chemical warfare. That's before it became outlawed or prohibited, but at least--. Well, I guess "outlawed" is a good word.

LaBerge: What was the name of the army's place?

Morgan: Dugway. They would conduct all kinds of chemical tests. They also had some bacteriological research and some nuclear research out there. It was in a remote area where some of the hazards could be handled, at least not a sizable population exposed to them. It was a permanent post; it still is. People lived there, and they had research laboratories. We had a major project out there, which was part of the cooperative research.

## Vice President for Business and Administration

Morgan: The university was expanding in every way, like other universities. The Board of Regents and the president decided that they needed to expand the organization of the university to accommodate the expansion. So, they created two vice president positions--one for business administration and one for academic affairs. I was appointed as the vice president for business and a Dr. G. Homer Durham was appointed as the academic vice president.

[A bit of history as well as what might appear to be a family tradition: my wife's father, Milton Bennion, was a long-time dean of the School of Education at the University. A few years before his retirement he was given the additional title of vice president to act in the absence of the president. Our son, Tony, is currently a vice president of the University in charge of planning and budgeting. Thus what appears to be a family tradition. Back to the new organization.][1]

We had two new vice presidents for the university to chart all kinds of uncharted waters. I continued with the cooperative research, for a while at least, and then took on all the business functions of the university, including the design and construction of new facilities, which became quite an operation, really, to build a lot of new buildings on the land since acquired from Fort Douglas. My duties also included all the maintenance and operation of facilities. That was a real challenge.

President Olpin was a--I don't mean to sound negative about this, but he was very poor in delegation. He liked to operate out of his hip pocket, and not be pinned down by any rules and regulations. I shouldn't say "pinned down," not to be restrained in any way by rules and regulations. Homer and I soon recognized this problem. The president would have a weekly cabinet meeting comprised of himself, his assistant, the two vice presidents, the dean of the graduate school, and others as needed. We would all have our agenda items in need of decisions. He was not a man who liked to make decisions; he liked to keep all options open as long as possible. But, most of all, he greatly enjoyed telling of his own accomplishments. [chuckles] So, it was very hard and very frustrating to get anything really decided in his meetings.

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[1] This bracketed material was added by Mr. Morgan while editing his interview.

So, Homer and I and President Olpin's principal assistant, a fellow by the name of Paul Hodson, would have our own meetings and decide what to do and then go ahead and get them started, unless it was some big item. We'd get them going and then at the cabinet meeting we'd merely report to the president what we had done. Sometimes we'd get a wrist slapped, sometimes he'd just say, "Fine." Well, it was really the only way to get things done. And that's when I really got into longrange campus planning. Here was this huge addition to the campus resulting from the acquisition of old Fort Douglas, crying out for some kind of plan to ensure and facilitate orderly development.

In all fairness, I should add that President Olpin was a great person who did a lot for the University of Utah. He is due much credit for elevating the academic standards and greatly expanding the academic fields, especially in graduate schools and research.

## Developing the Longrange Plan with Roger Bailey

Morgan: The original University of Utah was around an ellipse that faced to the west. All the new land we acquired from Fort Douglas was to the east, in effect, in the backyard of the old university. And here we had all those buildings coming along, without any idea of whether they were all going to fit together when we got our expansion done. So, I worked with the chairman of the building committee of the Regents, and it didn't take much effort to convince him that we needed a longrange plan. He in turn convinced other Regents.

President Olpin was only lukewarm to the idea--he didn't want to be "pinned down." I remember one Regents' meeting, the chairman of the Board of Regents simply announced that they were going to develop a longrange plan for the University of Utah, and Vice President Morgan was going to be in charge. [chuckles]

This was sort of news to the president. He was smart enough to see where the votes were, and it had unanimous support from the Regents, so he said that was fine.

There was a new Department of Architecture in the College of Arts and Sciences. The department head, Mr. Roger Bailey, was assigned to work with me in developing the new plan. Because of the expansion, the great increase of enrollments under the G.I. Bill of Rights, and just general population growth, it was quite evident that the University of Utah needed a longrange development plan to accommodate all the new buildings that were going to have to be built to accommodate the growth. Also, to utilize the expansion in the acreage of land taken over from the army as part of Fort Douglas, which was adjoining the university on the east. The army retained part of Fort Douglas, which had been a fort or a military post for, oh, nearly a hundred years. And they retained part of it, but they gave up a large part of the expansion that had occurred during World War II.

LaBerge: So that became part of the University of Utah campus?

Morgan: Yes. It was an annex that was really in the backyard of the original University of Utah campus. So, we faced the problem of making the backyard into an integrated part of the campus, at least not to destroy the old, established front yard, but rather to make it look like you were not coming in the back door on your way to come to the major part of the campus. So, the Board of Regents readily approved the development of such a plan. Professor Bailey and I undertook drafting such a plan. We had some consulting help, and we worked on it, oh, a couple of years anyway, off and on, and finally came up with a plan that the faculty approved, the President approved, and finally the Board of Regents approved. With modification, it's pretty much been the guide for development over the last thirty-five years.

LaBerge: Had you ever done a plan like that before?

Morgan: Did I ever make a plan? No, not a college campus; that was my first. I'd done a lot of planning at Los Alamos, but this was my first experience at planning a college campus. The principles of planning are pretty much the same, it's just the ingredients that are different. One of the participants on the college plan, of course, is the faculty. Any faculty is well known for its diversity of opinion, and they have to be treated a little bit differently than other kinds of constituents. So, that was a major undertaking. Any longrange plan that is considered to be a once-and-for-all or a static plan isn't worth very much. It has to be developed to accommodate change, and any plan must be updated periodically to keep it viable with the changing times, requirements and programs.

## Preparing the Budget and Meeting with the Legislature

LaBerge: Is the relationship between the Regents and the President at the University of Utah similar to the one in California? Is it the same kind of governing?

Morgan: It is. Yes. Of course, in California, you've got the chancellors on the campuses, but the relationship between the President and the Regents is very similar.

Back to my overall duties. I had all the business operations--budgeting, accounting, personnel, all the maintenance as well as design and construction. The University of Utah, being a state institution, depended upon the state legislature for the major part of its operating funds as well as its capital funds. We did have the outside source of money for research, as we've already talked about. But, a major effort was preparing the budgets and getting them ready to present to the legislature. At that time the legislature met every other year, but in later years they changed to an annual session.

LaBerge: Just like California.

Morgan: Yes. They've done it gradually. One year it was called a general session, when any bill could be introduced that any legislator wanted. Then they decided there would be a session in alternate years for budget purposes only. In that way the budgets reflected more the current needs and income. Every other year was a general legislative session, and the alternate years were budget only. But, subsequently they've progressed to where the budget session also includes other items. So, it still isn't quite like California. Also, they have a much shorter prescribed session. Their adjournment date is set. It's about the middle of March. They convene the first week in January, and they must adjourn by a specific date. They can't go on and on.

LaBerge: That's probably a good idea, to have a limit.

Morgan: They have to get their damage-making ability under control early on. [chuckles] President Olpin loved to go up and meet with the legislators and to be in the limelight--this is part of taking care of his ego--but he had the unhappy faculty of irritating legislators. They felt they were being talked down to too much.

The chairman of the Board of Regents, and other members of the Board of Regents as well, would catch a lot of the criticism in personal phone calls and letters from legislators.

Finally--I've forgotten in what year now--one day, I remember quite distinctly, I was called into the President's office, the chairman of the board and the President being the only ones there. The chairman of the board spoke directly to me, and said, "Elmo, from here on, you are to take over the duties of dealing with the legislature." And he turned to the president, and I think these are pretty much his words: "Ray, you stay the hell out of there." [chuckles]

Well, I was quite embarrassed; I had no doubt about what my assignment was to be, but I wasn't sure how pleased the President was with the decision. I'm sure the two of them had had prior discussions. The chairman of the board was an outspoken, a little bit roughshod, chairman of the board of American Smelting and Refining Company, one of the biggest companies in Utah. No more was said, to me at least, and so thereafter, I became the university's lobbyist up at the state legislature. Made the presentations and defended the budgets. Thus, my introduction into statehouse politics.

LaBerge: How often would you have to go up and talk to them?

Morgan: Oh, while they were in session, I had specific dates assigned to me to go up and make the budget presentations, but you'd have to be up there nearly every day because they'd have committee meetings and you'd get called to answer questions; or you'd have to go up often enough to keep track of the bills that you were interested in, what progress they were making through the committee structures and onto the floor of either the house or the senate. So, it was pretty much--for sixty days it was pretty much a full-time job. But, it turned out to be a very valuable experience for me.

Later, at the University of California--quite soon after joining the University of California--I was helping Vice President Corley, Jim Corley, in Sacramento in presenting and defending the capital outlay budget. And later, it was my prime responsibility to present the capital outlay budget--nothing to do with the operating budget, but capital budget only--for the nine campuses to the Department of Finance and the legislative analyst and then subsequently, to the legislative committees of the assembly as well as the senate. So, it was certainly a valuable experience I had at the University of Utah, to get me ready for what I initially didn't expect at the University of California, but later had to assume.

LaBerge: Well, do you think that that experience, plus the longrange plan had something to do with them hiring you? Because you'd had that experience?

Morgan: I don't know. I'm sure it helped. I would suspect the longrange development experience more than the lobbyist or the political, because at the time I was hired Corley was handling all work in Sacramento, which initially wasn't as large a task as it later turned out to be. The budget was sizable, but later was to grow manyfold as all the new campuses came into being. So, I'm not sure what attracted their attention.

## Director of Highways, 1958

Morgan: Another thing that happened while I was vice president of the University of Utah, that I had not planned on or known about, was a request from the governor of the state of Utah to become his director of highways.

LaBerge: What was the governor's name?

Morgan: George D. Clyde. Governor Clyde had been one of my major professors at school, and one of whom I was very fond, and I think he regarded me quite highly. He had followed my career quite closely and had expressed to me before he became governor that he envied my valuable experience in administering the size of program that I did in the army and particularly at Los Alamos. I think it was about 1958.

The beginning of the interstate highway program, as we know it, was part of the [President Dwight D.] Eisenhower program. I'm not sure when it all got started, but in Utah it was getting started in 1958. The organization of the highway department in the state of Utah was rather archaic, under a commission form. There were three full-time commissioners, each with equal authority, and not a very big program so far as the roads of the state were concerned. But, Governor Clyde decided there had to be a change from a commission-type to a director-type. There was to be a part-time road commission, but they were more like a board of directors rather than full-time commission members. So, he was interested in my helping get that new organization set up as well as being the director of highways.

I told him I did not want to leave a rather secure tenured position at the University of Utah and get chewed up in a highly-political changing organization for the state of Utah. Having been a professor himself, he understood what I was saying. So, he said, "Well, how about a leave of absence for you?" I said, "Well, I could ask for it." And he said, "No, I'll arrange it." He said, "Would you come on a leave-of-absence basis?" I told him sure, if I could help him out, but not on a long-time basis. I don't know that he purposely chose the time when President Olpin was on an extended trip in Europe, but choose it he did as a time to talk to the chairman of the Board of Regents. He was a pretty good planner himself. [chuckles]

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Morgan: I remember I was up to a summer reserve officer's camp in Oregon, at Oregon State University. It was in August, and driving home, we stopped in Boise, Idaho, for a bite of breakfast. I bought a Salt Lake Tribune, and read in the paper that I had been appointed director of highways. I had known the governor was going to make some arrangement with the chairman of the board or the President, but I didn't know when. But I learned about my appointment through this newspaper I bought in Boise.

LaBerge: Your family was probably surprised, too.

Morgan: Yes. They were. [chuckles] I had told my wife that I had been requested by the governor to become his director of highways but didn't know if or when. But anyway, I began getting into the highway job. I had to wait until President Olpin got back for him to name my successor to carry on my work at the University of Utah. So I was, in effect, trying to handle two jobs until he got back. When he did return, he was--I guess to my credit; at least it made me feel good--he was very unhappy. He didn't blame me; he blamed the chairman of the board and the governor.

LaBerge: For letting you go?

## The Interstate Highway System

Morgan: Well, for making the deal. What he said to them, I haven't the slightest idea. Anyway, President Olpin named his assistant, Paul Hodson, to be acting vice president. I maintained my ties at the university, in fact, the university continued to pay me, and the state of Utah reimbursed the university. That way, my retirement was not interfered with, as well as other prerogatives that I had at the university.

I found myself immersed in a totally different atmosphere with totally different problems. There was a lot of pressure to get the interstate system going and under construction.

LaBerge: Is this Highway 80?

Morgan: This was Highway 80; it was the first one we worked on, Interstate 80. That's the east-west one, and then the main north-south one was Interstate 15. But, there were tremendous political problems to overcome, and the legislature to deal with, and a whole new style, and travel around--. Everybody wants a new road, but they don't want it too near them. Except the merchants, and they want the road to run right past their front door. So the interstate system was, as we all know, a system with limited access to it, which meant you had to bypass the towns and cities.

We had to hold public hearings; that was part of the law, where we would locate the highways. Some of these public hearings were easy to conduct and others were rather, oh, cantankerous and anything but pleasant. One piece of the new highway in the Salt Lake Valley we were trying to get located ran right through my brother-in-law's yard. That was not very helpful to family relations. But, by the time we got it all ironed out, we did some moving, and it didn't get run through his backyard; for the most part, it went on vacant land. But no one wants a busy highway too close to them. That's understandable. So that was one of the major problems of getting organized and holding public hearings.

I was totally engaged in all of this highway work as a new life. My leave of absence from the university did not have a definite termination date; it was generally understood to be two or three years.

# VI UNIVERSITY OF CALIFORNIA, 1960-1970

## Recruitment to the University of California

Morgan: But while I was busy being a highway engineer, I received an inquiry from the University of California, or from a headhunting or consulting firm who was doing recruiting for the University, to see if I would be interested in a job as vice president at the University of California, vice president of business. I responded in the affirmative since it was a bigger position, more responsibility and room for growth, than returning to the University of Utah. I did talk to President Olpin and told him I was going to respond in the affirmative; also, of course, to the governor, and the chairman of the road commission.

One thing led to another, and I was invited down for an interview. The firm was Cresap, McCormick and Paget. They had one of their representatives by the name of Mr. Bofferding come to Salt Lake to interview me. It was then that I learned of how my name got submitted, and this just shows how one thing leads to another that you never know about. My colleague, Vice President Durham at the University of Utah, and Dean McHenry, who was then Clark Kerr's dean of universitywide academic planning at Berkeley, knew each other at UCLA. In fact Homer did graduate work under Professor McHenry. So Dean McHenry had asked Homer Durham if he knew of anyone who might make a good University of California vice president, and Homer gave him my name. Dean McHenry passed it along to Cresap, McCormick and Paget, and that's how I came to be interviewed. [chuckles]

Of course, I had to submit my c.v.--curriculum vitae--and then I was interviewed as already indicated. Later, I heard from President Kerr's office that they would like me to come to the Regents meeting in October, 1959, which was being held at Santa Barbara, that particular one, for an interview with the Regents' committee. Which I did, and I was interviewed at a special luncheon with Regents [Edwin] Pauley, [Edward] Carter and [Jesse] Steinhart, oh, one other one--[Gerald] Hagar. A very pleasant interview, very informal. They seemed very much interested in my background and experience in relation to what they had in mind for someone at the University of California.

Of course, they made no decision at that time, but as we were walking out of the little room where our luncheon was held, I was walking side by side with Regent Carter, Ed Carter. I learned later he was president and chairman of the board of Broadway-Hale stores. He took me by the arm and pulled me aside and said quietly that he hoped, well, he said, "I'm sure you'll be offered the position, and hope you'll take it" (at the University of California). "But in the event you decide not to, I would like to talk further with you about a position with Broadway-Hale stores." I felt pretty good about that, and that was all that was said.

## Vice President-Business at UC

Morgan: Not too long after, I had a formal offer from the University of California, and came down and was formally presented to the Regents at the November meeting, which was held in Davis. I came down to assume full time on January 1, 1960. And that's how I got to California. My family did not move down until school was out in Utah in June of 1960. So, I was a bachelor in Berkeley along with Dean McHenry, whose family was still at UCLA.

LaBerge: When you came and had your first interview, did you also meet Clark Kerr?

Morgan: Oh, yes. Yes, I met him. I talked about having an interview with the Regents, it was a special committee. But prior to going into that meeting, I had met with Clark Kerr and also met with Dean McHenry and others I was introduced to and don't remember.

LaBerge: In that process, who makes the decision? Do the Regents, or the Regents and the President together?

Morgan: The Regents upon recommendation of the President--together. Based on Mr. Bofferding's interview and my c.v. [curriculum vitae], and of course, I had to give references which presumably they had checked. They had pretty much made up their mind, I'm sure, about offering me the position, if everything else turned out. I guess they wanted to check my personality and take a reading on my chemistry and their chemistry and all the things that you make up your mind about. Certainly, the interview was an important part of that chain of events, but I'm sure that they had figured before then that if nothing shows up to the contrary, "this is our man." And that's the way it became.

LaBerge: And so then, were you responsible to the President, or to the Regents?

Morgan: No, directly to the President. That was made very plain right from the beginning. We'd have to work with the Regents, but the line of responsibility was definitely from the President to the vice presidents. That had not always been the case under [Robert] Gordon Sproul, but this was one of the real problems that I'm sure Clark Kerr was bound and determined to change, and did. So, under Clark Kerr's organization, the only two that reported to the Regents were the general counsel and the secretary/treasurer of the Board.

LaBerge: Now how did you know Bob Underhill?

Morgan: Bob Underhill negotiated all of the University of California's contracts with the Manhattan Engineer District and later, with the Atomic Energy Commission. I became acquainted with Bob Underhill on one of his frequent trips to Los Alamos. I had nothing to do with him professionally, but we were both involved in some of the meetings and some of the luncheons. So by the time I came to California, I was quite well acquainted with Bob, who was both secretary and treasurer [of the Regents]. It was not until after his retirement that there were two separate positions, a secretary and a treasurer.

LaBerge: Well, do you think the fact that you knew him and had worked a little bit with him had something to do, too, with you being hired?

Morgan: I don't know. It could well have been. Bob and I were good friends, and I wouldn't doubt that some of the Regents--knowing, or at least reading from my vitae, of the experience at Los Alamos, some of the Regents perhaps went to Bob and asked him if he knew me. I presume what Bob would say wouldn't hurt me, but [chuckles] you never can tell. And since he's now deceased, it'd be hard to ask him. But these connections, you never know when they're going to turn up.

LaBerge: That's right. It seems to have happened in your life more than others.

## Background of University Hierarchy

[Interview 5: April 19, 1991]##

LaBerge: Why don't we start with how you made your decision to come, and what your job was going to be?

Morgan: I'm not quite sure what our family decision process was, but we did accept the Regents' offer. Certainly, it was a step up in my professional career to become associated with a great and well-known university such as the University of California. Not that the University of Utah was a small school, nor one very far down in the ranks, but rather, the opportunities were greater at the University of California; particularly in the area of planning and design and construction, which was a major part of my background and my interest. Already at various stages in the decision process were the three new campuses for the University of California.

LaBerge: Before you ever came, they'd already decided.

Morgan: Before I came, and I was told about them in my interviews. One was to become known as the Irvine campus. That was entirely new. Another entirely new one was Santa Cruz. The third one, while not entirely new, was at San Diego. At San Diego there was already existing and had been for many years--I think about 1914--Scripps Institute of Oceanography, which was a highly specialized research institute located right down on the ocean front in La Jolla. But the Regents had decided to make a general campus there, and utilize the land which was then Camp Matthews, which had been declared surplus and was being transferred to the University.

So, during the interview, I was told of these new campuses, plus expansion of all of the other campuses, especially at Riverside, Davis and Santa Barbara. So, it was a real challenge to join Clark Kerr's team and be in on the planning of the big expansion, which in fact did take place all during the 1960s. This, I'm sure, was a big factor in my deciding to come to the University of California. In effect, it was getting into the "big league."

LaBerge: Well, it's a difference of nine campuses, rather than working at the one campus.

Morgan: Yes. Also, while I was at the University of Utah I became active in both the Western Association of College and University

Business Officers, called WACUBO, and the National Association of College and Business Officers, called NACUBO. The former was the regional and the latter, the national. This organization is a well-known and very productive organization, and as the name would imply, of all business officers from all over the country. Through attending these meetings, the meetings of those organizations, and working on committees, I became quite well acquainted with Vice President Jim Corley of the University of California, and Controller Ray Kettler, who had come from Purdue University to join the University of California, I think in about 1955 or 1956. There were others on some of the campuses, but I had heard from Corley and Kettler quite a bit about what was going on at the University of California, and some of the plans, and the need for quite a bit of work to be done in my areas of interest. These acquaintanceships were not major, but they were helpful in that I was coming to an institution where I already had friends.

Another one that I knew even before coming to the University of Utah was Robert M. Underhill, who was secretary and treasurer to the Board of Regents. I had met him at Los Alamos since he was the representative of the University of California who negotiated all the contracts with the Manhattan Engineer District and later with the Atomic Energy Commission. So, Mr. Underhill and I were very good friends from way back. And I, of course, visited with him during my interview, as well as I did with Corley and Kettler. All three of them were very encouraging, and if I might say, twisted my arm a little bit. Anyway, so much for the background. I did accept, and made one or two trips to Berkeley before my actual starting date, which was January 1, 1960.

LaBerge: How was your job defined to you, when you took it?

Morgan: Only in general terms. I was to be vice president of business, reporting directly to the President, Clark Kerr. By way of a little background, as it was told to me and as I remember, and I don't have any actual dates, but--. Historically, Robert Gordon Sproul began his career with the University as comptroller, or at least he soon became that. I'm not too sure what his actual first job was. But he became the comptroller of the University, which was essentially just Berkeley, and agricultural experimental work at Riverside and some at Davis and UCLA and Scripps.

Jim Corley's first job was in the comptroller's office, and he later became comptroller. He didn't immediately succeed Sproul; there was an intermediate person there. At that time the comptroller reported directly to the Regents, which it did for many years. But as the University grew, Jim Corley was made vice president-business, and later Ray Kettler came from Purdue to take over the job as controller.[1] The controller was essentially accounting and auditing at that time.

Jim Corley, even when he was comptroller, and later all the time as vice president, had primary duties of presenting and defending the budget in Sacramento. He worked a lot on alumni relations, especially when it came to getting political support for budgets and legislation in Sacramento. Clark Kerr became President, I think, about January, 1958. Again, I'm not attempting to write a history, but rather just to give the background a little perspective at the time I came to the University. Just prior to my coming, Jim Corley's title had been changed from vice president-business to vice president-university relations.

LaBerge: Which is essentially what he was doing, right? In Sacramento and with the alumni?

Morgan: Yes. He still retained the title for a short time after Kerr became President. Vice president-business, but then they split, and they continued the title of vice president-business, and that was my title when I first arrived. They also made another new title, vice president-finance, and Ray Kettler was put into that position.

LaBerge: So, he changed from controller to finance?

Morgan: His duties stayed the same. And also, during the late fifties, they severed the direct ties between the controller and the vice president-business to the Regents, and made both report directly to the President. This was over a period of years, but as I understand, one of Clark Kerr's conditions, I presume, in accepting the presidency was that all of the vice presidents would report directly to him and not to the Regents. The only two that remained reporting directly to the Regents was secretary and treasurer of the Regents and the general counsel for the Regents. But, even those two gentlemen were given dual titles of vice presidents. With their vice president's hat on they reported to the President, but with their other hats, they reported directly to the Board of Regents. How they kept track of which hat they were wearing, I don't know. [chuckles]

LaBerge: But this had all happened before you came.

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[1] Ray Kettler's title from 1960 to 1963 was vice president-finance and controller.

Morgan: This was in place, oh, I assume it happened probably within the year before I came, but that's the picture when I arrived. So, January 1, 1960, I came down to assume my duties as vice president-business. Later, I believe it was in 1964 or '65--

LaBerge: I've got '65.

Morgan: Sixty-five. With the big increase in the work load connected with the new campuses, planning them and the huge increase in the amount of money for new construction on the campuses--not only on the new campuses but on the existing campuses as well--the Regents created a new title of vice president-physical planning and construction, and that became my title. The business functions that I had been performing were largely transferred to Vice President Kettler.

LaBerge: Under his same title as "finance"?

## Blue Ribbon Committee to Study Building Program

Morgan: Vice president-finance, yes. Also, one of the factors, and we will come to it later, in helping make this decision to create a vice president only for the planning and construction was a blue ribbon committee that the President suggested and the Regents approved, for the purpose of having some outside top-level people come in and evaluate the University's building program and answer the questions: "Is the University's building program being effectively administered, and what changes should be made, if any?" I remember one of the recommendations was the creation of a separate vice president just for the building program, because the committee was quite impressed, and maybe amazed, at the size and complexity of the building program. And I'm sure that committee's recommendation carried a lot of weight in making the change in titles.

LaBerge: Who was on that committee?

Morgan: Do you want to digress to talk about that committee?

LaBerge: Yes, I think that'd be a good idea.

Morgan: All right. Oh, from time to time and it continues to the present day, some of the Regents who had interests connected to the development field, or design and construction, or investment, would hear of buildings being built for considerably less cost and in much shorter time than it was taking the University to plan, design, and construct its buildings. This is not uncommon, but I remember specifically one Regent saying that he had learned of a developer that built a motel for a certain amount of money and our residence halls were costing a lot more than that. Why couldn't we just build some motel-types and as cheap as the developer did? This particular Regent was very insistent.

LaBerge: Can you tell me who that was?

Morgan: Not for the record. [chuckles]

LaBerge: Okay.

Morgan: Then, well, they'd hear that the state colleges were building buildings a lot cheaper, one administration building in particular. I guess the President got tired enough of hearing about these examples that he decided to get the Bank of America, PG&E [Pacific Gas and Electric Company], Kaiser Engineers, and Bechtel, each to appoint a top-level person from their organization to form a committee that was to be chaired by Mr. Harry Hilp, who was the owner and president of a large and a very good construction firm at that time. I'm not sure what its status is now.

LaBerge: Called Hilp Construction?

Morgan: It was called the Hilp Construction Company. But, they did appoint their top-level people. Usually, their general managers or the person in charge of their building programs. I was to work with them, which I was pleased to do. We had many meetings, and they inquired as to the whole process of funding, selection of architects, procedures during design and construction, and all the administrative details that go with it. They made a preliminary report, as I recall, late in 1963, a progress report to the Regents, that is. The Regents were much impressed and raised some more questions, which we--the committee, when I say "we," I was not on the committee, but I worked with them very closely--spent another few weeks getting answers to these further questions and getting everything together. Then the committee made a final report to the Regents early in 1964.

I remember the report quite well, because they, in the letter of transmittal as well as in the opening paragraphs of the report, commended the vice president for providing a very good management of the building program. They did have several comments and recommendations. One recommendation was a change in organization that provided a vice president with duties only to handle the building program. So that was a good experience, and it gave me a lot of confidence in the way we were handling the University's building program. The Regents accepted it, and seemed to be pleased with it. The Regents were complimentary to me and to the President, and we didn't have any complaints, at least for quite a while.

LaBerge: Did it answer their questions why you couldn't build motel-like dorms?

Morgan: Yes. A developer cuts all kinds of corners. Their primary purpose is to build a nice-looking motel that they sell to someone as soon as possible. The buyer figures on a certain life for depreciation, tax write-offs, and a whole lot of things. The quality of construction is remarkably lower than what the University uses for several reasons, the most important of which is that the University has no way of depreciating its capital assets, other than on the books, but doesn't accumulate any depreciation funds for repair or replacement. Therefore, the University has to build the residence halls to last for fifty years or more.

Then there's the question of life cycle costing. You have to consider the life of the building, and how much you are going to have to pay to maintain these buildings. Motels have to be maintained, but they don't get the same kind of treatment that the students give the residence halls. The cost of the maintenance can be transferred to the customer a lot more readily than you can transfer them on the University campuses.

Also, a big factor that came into these comparisons was the old cliche of comparing apples to oranges. You hear a certain square foot cost or total cost and you take that as the real total cost; yet you look in to it and you find that it didn't include this and it didn't include that.

The uses of a building, especially in the academic buildings, are a big factor. Administration buildings are much cheaper to build than laboratory buildings. In the case of the state college building, I've forgotten which campus it was on, but I had my staff personally investigate that one. The total cost that had been given to us by way of one of the Regents was factual, but only for part of the building. It turns out that they had done all the site grading and some of the foundation work under a previous grant, and the figure that the Regent had included only the superstructure of the building. It didn't include the whole building. So it's not an unusual problem.

In fact, it's continuing even today, and the President's Office is wrestling with the same problems we did thirty years ago, on a different scale but the same kind of problems. I have continued as a consultant to the President's Office, and I served on some committees in which these same problems are still being addressed. The reasons are essentially the same: of getting good comparative cost data. Once you've got good comparative data, the University of California measures up very well. It's only natural that people believe what they want to believe or hear what they want to hear.

LaBerge: Without investigating further.

Morgan: Without investigating further. Let's see--where were we?

## Duties of Vice President-Business##

LaBerge: Well, you were going to define the job and your new title, saying the term "physical planning" was added.

Morgan: When the title was to be changed from vice president-business to what it became, there was considerable discussion about the modifier of the word "planning." Initially, it was just to be planning, "planning and construction." Then, it was felt that something better to define "planning" would be appropriate because academic planning was going on under another vice president. They are two quite distinct functions of planning, one academic and the other physical planning. It was appropriate to label my work as physical planning. It made the title a little longer, but that didn't bother me in the least.

Initially, going back to the beginning, by far the biggest part of my new duties was the planning and construction of new campuses and new facilities. But also under my supervision was the purchasing, non-academic personnel--and we were careful to use "non academic" because "academic personnel" came directly under the President's Office, or the academic vice president. They (the academics) were, have been, and still are, very touchy about that. Security was part of my assignment, and the operation of all the auxiliary enterprises, which included all student housing, parking, transportation. Not athletics.

LaBerge: When you say transportation, things like the Humphrey-Go-Bart bus?

Morgan: Well, the Humphrey-Go-Bart was a later creation. But we had quite a sizable carpool. They don't have it now. Carpool in the President's Office, and then on all the campuses. There were all the maintenance vehicles and transport vehicles, buses. It was quite a fleet, totally.

LaBerge: I remember seeing a whole bunch of apricot-colored Fairmonts, or blue Fairmonts that were--. I knew they were University cars, all the same color.

Morgan: All the same color, yes. [chuckles] Well, that went out of existence later because you could rent a car cheaper than checking one out of the carpool. As with a lot of other things, there initially was no charge for checking a car out of the pool. But then as the budgets got tighter and tighter and everybody was looking for ways to save their budget--not necessarily other people's budget but their budget--they instituted a re-charge for use of vehicles. And of course, the maintenance had to be built into the re-charge. The re-charge price became so high that you could rent a Hertz car cheaper than you could rent one from the University. So, that did away with the fleet.

LaBerge: But, you originally were responsible for negotiating that with whatever company you bought the cars from?

Morgan: The University bought part of a fleet of new cars every year and partially replaced part of the pool each year.

LaBerge: But you did that negotiation?

Morgan: No. No, our purchasing department did. No, it was just under my general supervision. I didn't do it personally.

LaBerge: But would that have been true for every campus?

Morgan: Yes. We got them on a fleet basis originally. And that's a pretty good description of what my duties were. Those people that would previously have been reporting to Jim Corley for all these things then began reporting to me, January 1, 1960. In other words, I took over or "inherited" all of Jim Corley's staff that were performing all these functions.

## Decentralization Under Clark Kerr

Morgan: One of the biggest tasks facing me in all of these areas was the decentralization that President Kerr had set in motion before my arrival. But what was impressed upon me as one of my first duties was to get these functions decentralized. Historically, over the many years, even as these campuses had been developing under President Sproul and even to some extent under President Kerr, all the business functions on the campuses were, of course, administered by personnel on those campuses, but those people all reported to Jim Corley in Berkeley. I mean, they were all on his staff. They were not on the staff nor were they responsible to the chief campus officer, whether he was a director or a provost or a Chancellor--I think at that time Berkeley and Los Angeles were the only two with Chancellors. I'm not sure about Davis and Riverside; they later became Chancellors. Anyway, all the business functions were under the direct control of President Sproul's office through either the controller or the vice president-business.

I had no problem at all accepting the decentralization in principle because I believed in it, and it was just almost unmanageable to try and handle all that from a central office in a state as big as California. It simply didn't make good organizational sense to have a man in charge of a campus with part of his staff reporting somewhere else. So, I had no problem at all in agreeing with President Kerr that something had to be done, but getting it done proved to be much harder task. I recall President Kerr was pushing quite hard for everyone on his staff to get his operations decentralized. By the time I came, some had already been fairly well decentralized. But I apparently wasn't moving as fast as he thought I should, so he'd keep "pushing" me, quote unquote, and I was certainly working on it.

Finally I told him--I think these were almost the exact words, quote, "Look, Clark. In my view it's much better to clean up a mess before you decentralize it than to decentralize a mess." He laughed and said, "You're right. Go ahead." [chuckles] The reason it was difficult is that, if you're going to decentralize, you've got to have a set of guidelines or standards, especially in the planning and design and construction, which everyone has to adhere to or be guided by. So it became a priority item to develop these standards, or at least guidelines. And this was really the origin of what we called the Facilities Manual.

LaBerge: So, is this something that you wrote?

Morgan: Well, I and my staff. We had to. Also part of this, and historically, the Regents had retained for themselves an unbelievable amount of detail in the administration of construction contracts and contract documents. Such things as selection of architects, site selection, change orders, even some pay estimates, all had to go to the Regents to be approved. With a highly centralized organization, and with the big expansion that was already upon the University there was no way you could handle a volume that big on such a centralized basis. But, because it had been centralized, the dos and don'ts and what was acceptable and not acceptable was concentrated largely in the staff of the vice president-business.

This is not to say that the people in the campuses didn't know of these, but there was really no published documented guide for them to follow. So, it was a question of getting enough of these standards and other guides in place and understood, and the right kind of people on the campuses to which the prime responsibility could be shifted, from universitywide down to the campuses. And this was taking time, to get all these necessary controls. You were shifting from a hands-on doing to, in effect, a post-audit type of operation. And also, it was necessary to get a lot of the authority that had vested in the Regents these many years delegated to the President, and in turn from the President to either the vice president-business or to the Chancellors themselves. So the lines of authority had to get straightened out as well as a reporting system.

LaBerge: Was it more so in your area of expertise than other areas? More so for business than, say, for academics? Or did it work for--?

Morgan: I think so. I can't speak for that for sure, but certainly there were a lot more contractual matters--with all of the architects and contractors--that came into play. In the academic area, there is a contract between the University and an individual. Also in the academic area, academic senates existed on all the campuses, and a lot of the work was done through those committees. It was my impression that these areas had not been quite as centralized as the business operations.

The Regents, by and large, were business people, and probably still are. They have a sense of what liabilities you get into when you sign contracts for design and construction. That was more in line with their background, and they liked being in on all the decisions. It was not easy to get them to give up some of these things they had been doing for so many years.

LaBerge: I bet.

Morgan: President Kerr did a great job in working with the Regents, getting them to give up some of their long-cherished responsibilities. They still had the overall responsibility, but getting them to delegate some of it was not too easy in some cases. Then, one of the big tasks, as I already indicated, was to get set up organizationally the structure, both in people and guidelines, to control a big program. This was not unlike what I had to do during my experience with the Corps of Engineers, where we had a central district office with operating offices spread over, oh, two whole states and part of three others. So that experience was very helpful to me.

## Campus Planning Committees

Morgan: Another major undertaking was getting set up on each campus some effective means--at the campus level--of controlling the planning, physical planning I should say, and construction. I got President Kerr to approve the establishment on each campus of what became known as a Campus Planning Committee, to be chaired by the Chancellor himself. The President had established, it was in existence when I came, the Council of Chancellors.

LaBerge: Council of Chief Campus Officers.

Morgan: Yes.

LaBerge: Under '58 and '59.

Morgan: It was established in '58 or '59. So this concept of a Campus Planning Committee was discussed in a meeting of the Chief Campus Officers. In fact, the President invited me to come to that meeting, or part of it, and explain what I had in mind. The Chancellors readily approved the concept. So, we went ahead and got a Campus Planning Committee set up on each campus. We asked that certain people on the campus be a part of those committees and the Chancellor would add others. One we wanted as a member was the campus architect.

LaBerge: And did all the campuses have an architect by that time?

Morgan: Some of them did and some of them didn't. And then as the new campuses came along, of course, we created a committee there. Another--I don't know whether to call it a phenomenon or a concept. At any rate, there existed on the Berkeley campus what was known, or soon became known as the consulting architect for the campus, in the person of William W. Wurster, who was the dean of the College of Architecture. I think that's what it was called at that time, but later it became Environmental--

LaBerge: Environmental Design, I think?

Morgan: Yes, Environmental Design. That includes architecture, landscape, urban planning, and everything else. But, anyway, Bill Wurster worked closely with the campus architect as sort of an overall guiding hand, and especially to see that everything fit together and there was some harmony in the overall design. So, at least the buildings looked like they were related. Looking at the campus now, you wonder how effective, or if that was effective at all. It was a tough job because of the many buildings over some 100 years. On the Berkeley campus, it's been said and I subscribe to it, that it's the big eucalyptus trees and the redwoods and other large trees that hide the buildings that make the campus look pleasant. [chuckles]

Anyway Bill Wurster served in that capacity initially without any formal title, so far as I know. Also Regent [Donald] McLaughlin, who professionally was a mining engineer, but he also had a keen sense of buildings and what they should look like. He worked closely with Bill Wurster and the campus architect, Louis DeMonte, as sort of an unofficial campus planning committee of its own. And I must say, they worked very well together and produced some very good results. I'm sure they worked closely with the campus administration, especially after Clark Kerr became Chancellor. Clark Kerr was very active in campus planning.

## Campus Architects and Consulting Architects

Morgan: But anyway, that as much as anything provided an example of what each campus should have, by way of control, on an expanded basis. It also led into the need for a consulting architect for each campus. And again, the theory was that as the campuses expanded, there would be quite a few different architects--outside architects which we called executive architects--that would be working on the campus, designing, oh, half a dozen or more different buildings all at the same time. There needed to be someone from the outside not immersed in campus details that would sort of stand back and look at all of this design going on, as I said earlier, to produce buildings that looked like they belonged on the same campus.

There was a special effort made, however, and it was even discussed and approved by the Regents, that not all the buildings should look alike. But they should look like they belong to the same general family, at least. So we had to select and recommend for Regents' approval a consulting architect for each campus. This became somewhat political, especially in Southern California, where some of the architects were better known to the Regents in their social circles than for their competence as architects. [chuckles] Some of the suggestions from the Regents didn't really match up to the kind of consulting architects we wanted, so it was a bit of a political struggle. But by and large, it worked very well. Then another question came up, that since the Berkeley campus had a Regent working with the planning on that campus and had, in fact, become a spokesman--

LaBerge: This is Regent McLaughlin?

Morgan: Yes, Regent McLaughlin. He was a good spokesman at all the Regents' meetings in behalf of that campus. It raised the question, well, if Berkeley's going to have a representative Regent, all the campuses ought to have a Regent on their planning committee. I remember they discussed it at one meeting and purposely didn't make a decision at that meeting, but carried it over to the following month. I think it was Regent Carter who led the opposition in a nice way, but his point was well taken--that we should not have Regents as a special representative for one campus; rather, all Regents should represent all the campuses. He thought that this would be a move in the wrong direction, to have a spokesman for each campus on building matters. The idea of a Regent for each campus was not approved.

This didn't diminish Regent McLaughlin's interest in the Berkeley campus, but he did back off from being such a--I was going to say vocal, but he wasn't vocal, such a strong, or visible, proponent of the Berkeley campus. He, Regent McLaughlin, loved red-tile roofs on buildings, and it became a source of humorous kidding at Regents' meetings as well as a joke on the campuses: if you want Regent McLaughlin's vote for approval, put a red-tile roof on it. And that's very evident around the Berkeley campus. [chuckles]

LaBerge: Well, were you responsible, though, for hiring the campus consulting architects?

Morgan: Yes, after Regents' approval of them. I was responsible for negotiating the contracts with them. There were certain rules we had to prescribe for the consulting architects, that they, initially at least, could not be an executive architect, which meant the design architect for any building on the campus for which they were consulting architect. That later was modified some to accommodate certain conditions.

They were to belong to each campus; they did not report to me, they reported to the Chancellor. The Chancellor could call him in for advice at any time. They were paid on a retaining basis, and they were to became a member of the Campus Planning Committee. These Campus Planning Committees were to become very effective as well as popular on each campus. By "popular" I mean that because the power structure in those planning committees was really the power structure for the campus, the agenda became an inviting place for decisions on many subjects not too related to the building program. So, our activities on the campus soon--

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LaBerge: You were talking about the effectiveness and popularity of the Campus Planning Committee.

Morgan: Other segments of the campus than physical planning and construction or the people administering other parts of the campus soon learned that if they wanted to get a decision in a hurry, they needed to get their item on the agenda of the Campus Planning Committee. This was practiced to some extent on all the campuses, more so on some than others. On two of the campuses I had to talk to the Chancellor and say, "Look. The real purpose of setting up the Campus Planning Committee is getting so diluted we can't get all the business of planning and construction finished." In other words, we were diluting too much. I asked them to please limit the items that went on the agenda. And they were very cooperative.

I'm not sure whether a Campus Planning Committee still exists on all the campuses or not. I do know as the building program funding decreased so much under the Reagan years as governor, and even later for various reasons, the volume of construction on each campus greatly decreased and the role of consulting architects, through attrition or disinterest, almost disappeared. I say "almost" because I'm not sure whether any campus now has a consulting architect. But it was a big and very important part of controlling the vast program that we had underway that reached well over a billion dollars a year at its height. And that's a lot of work to keep track of.

LaBerge: How involved were you with each committee? It sounds like you went to a lot of the meetings.

Morgan: Oh, I was a member.

LaBerge: So you went to every campus' meetings?

Morgan: Initially, I went to all of them. I was named as a member of each committee. If for some reason I couldn't go, and certainly in later years, I was represented mostly by Bob Evans, who was the University architect, and one of the very good employees that came over to me from Jim Corley's organization. Bob was a very sensitive design architect. He worked well with other people and was well liked by the campus architects and the Chancellors. He was a great asset. While I was away on leave for service with the Department of Interior, Bob was named by the President and Regents as acting vice president for planning and construction. Let's see--.

## Facilities Manual

LaBerge: Could we talk a bit about the Facilities Manual that you wrote when you needed guidelines?

Morgan: Yes.

LaBerge: Who helped you with that?

Morgan: There was a, well--. I was trying to think of how it really started. [chuckles] Whether there was some document by a different name existing or not, I don't remember. But at least, there was need for rules and regulations to cover what our new program embraced. This thought may go back to my army days, and I even hate to mention the name "army regulations" because the army had a regulation for anything you could think of, and despised by most everybody that had to live with them. [chuckles] But at least, it was a means by which you could get some guidance if you really wanted to find it. Trouble is, you get too much guidance.

The operation and maintenance of all the facilities on all the campuses was under my supervision. It was important, in this facilities manual, not only to talk about the planning, design, and construction of new facilities, but also the standards for operating and maintaining the facilities already in existence. So right from the beginning we embraced both segments--or parts--of the Facilities Manual: one to build, the other to maintain and operate.

To digress for a minute here--. The staff that came to me really had no well-experienced person on maintenance--operation and maintenance of plant. There were good people on the campuses that existed, I should say "good" in varying degrees of good. So I recruited an associate of mine from Los Alamos by the name of Sam Musser.

LaBerge: I remember Sam.

Morgan: He joined my staff to take over the operation and maintenance of plant on all campuses, or rather to plan and coordinate it. Sam had been one of the original and key staff members of the Zia Company at Los Alamos, of which I was the manager, and which had been formed to take over all the operation and maintenance of that installation. He was a good civil engineer, a good cost accountant, and almost an addict to keeping good data, comparative data and operating data. Anyway, he joined my staff. It must have been in about 1962; I don't remember exactly. But he figured very heavily in writing the Facilities Manual.

Back to your question, I'm not sure of the origin of the Facilities Manual, except it was a manual that related to all the facilities, whether it was design or construction or maintenance. So we set about to describe the procedures to be used in the selection of architects, the different kinds of contracts you could have with architects, payment of architects--fees or other means of reimbursement--selection of construction contractors, the bidding process, the administration of contracts, change order procedures, pay estimate procedures, inspection, final inspections, sign-offs, payment to contractors and handling of claims, settling of disputes, and about everything you could think of that would be helpful to the campuses as a guide and also helpful to my office and in the post-audit work.

LaBerge: Was there someone on each campus who had experience doing this kind of thing? Or did you have to hire new people?

Morgan: No, each campus had--in varying degrees--people that had been doing this, but under the direct control of the vice president-business. I don't know for sure; I don't think it would be correct to say that they had no manuals at all in the way of guidance, because I'm sure they did. But they were quite inadequate for the new type of operation that we were trying to get established.

## Background of Decentralization

[Interview 6: May 7, 1991]##

LaBerge: Last time we had about finished with your description of the Facilities Manual and redoing it as a part of the decentralization. Today maybe we should talk about a chronology of different events in that decentralization starting in, I guess, 1958, before you came?

Morgan: Yes. As a background, a chronological background, of what decentralization meant in broad terms, and then later we'll talk more specifics. But a chronological summary of the decentralizing process might be helpful to the reader. My area was, of course, related to my title of vice president-business, which included not only the design and construction of buildings, but also purchasing, the police departments, and the auxiliary enterprises; it all had to be decentralized. In total, decentralization also included the academic, finance, auditing, accounting, all the other things that make up the operation of a University, the purchase and leasing of land, the acceptance of gifts and so forth. But this summary that we'll insert here relates only to that part of the University for which I was responsible beginning in 1960.[1] So in 1960, the campus offices of architects and engineers was transferred from Universitywide to the Chancellors. And a Campus Planning Committee was established on each campus.

LaBerge: And we talked a little bit about that last time.

Morgan: Yes, so I'll only mention it in the summary here.

## Mechanics of Campus Planning Committee

LaBerge: Before you go on, could I ask you one question about that? How did that Campus Planning Committee work? What was the voting? And what kind of authority did it have?

Morgan: Well, it was set up with some prescribed requirements on the part of the Chancellor. The authority for setting them up was by memo from the President to the Chancellors indicating that each campus was to have a Campus Planning Committee, outlining the reasons for it and setting forth certain requirements--so far as the President's Office was concerned--with some latitude on the part of the Chancellors in terms of membership and functions.

The main purpose for the Campus Planning Committee was directed toward overall planning of the campus and the design and construction of buildings. Some of them became a little broader in concept at the request of the Chancellor. But the primary purpose was to exercise the necessary controls on the building program that were being decentralized. Heretofore everything was highly centralized in the President's Office and, to a considerable extent, in the Regents themselves.

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[1] See "Development and Decentralization. The Administration of the University of California, 1958-1966," in The Bancroft Library, University Archives.

In setting up the Campus Planning Committee, it was indicated that the committee would be chaired by the Chancellor. This was a given. The vice president-business--myself, or my representative--would be a member, the campus architect would be a member as well as acting as the secretary to the planning committee, unless the Chancellor chose otherwise. And to my knowledge, there was no "otherwise." The academic side of the campus organization was to be represented but I don't recall whether it was specified as the vice chancellor of academic affairs or someone else. But anyway, the academic side was to be represented. Then, the other--

LaBerge: With one person, or more than that?

Morgan: One. But on each campus, the Chancellor chose other members, too, largely from the area of campus planning, that is, student projections, enrollment projections, usually someone from "institutional research." As I remember in most cases, the vice chancellor for business was a member. At any rate, it was intended, and in fact operated, according to the intentions that the committee have representation of all the authority that was needed on the campus to make a decision meaningful and effective and, most of all, to be the final decision on the campus on items that were brought to the Regents' agenda. On two or three campuses, I recall, the effectiveness of this Campus Planning Committee was becoming so well known on the campus that other organizational elements of the campus began crowding the agenda since they knew it was the best way to get a final decision on campus matters. On these campuses, the agenda was becoming so crowded with non-building items that I had to ask the Chancellor to limit agenda items more to the original intent rather than to what they were becoming.

LaBerge: Which campuses were these?

Morgan: Well, Los Angeles, Davis and San Diego were the ones that I recall offhand as being the more "ambitious" ones--. There were all good items, there was nothing particularly wrong with it except the meetings were becoming so lengthy and so involved with so many people that the original intent was being subverted. In fact, it was gratifying to learn that the original intent was really proving to be very worthwhile and very effective and productive.

At those meetings we would discuss the appointment of architects and later, as the plans developed, the architects would make presentations of their designs to the committee. There were discussions of how well the buildings, as they were being designed, were accommodating the academic program as intended. And the changes to the longrange development plan would be discussed. It was a very effective means of both the campus and the President's Office, being kept informed of what was going on, and also, of the campus being informed of what the requirements of the Office of the President were. So it was a very effective communication link.

LaBerge: Did you have a vote on every committee?

Morgan: Yes, yes.

LaBerge: And did everybody have an equal vote?

Morgan: Those who were officially named all had votes; however, those who were invited only as resource people didn't vote. I don't recall any formal vote being taken at any meeting. You could tell whether a consensus was developing or not and if not, then you'd find out why and go back to the drawing boards again. Certain items, such as approval of architects and approval of plans, construction budgets, did have to be approved, or at least, as these items came on up to the President's Office, it was required to be written into the transmittal that this particular item had been approved by the Campus Planning Committee.

## Chronology of Decentralization

Morgan: Let's see. I think the last item in our chronology was that the Campus Planning Committees were established on each campus. This is still 1960. The campus purchasing offices and the police departments were transferred from Universitywide to the Chancellors. Each of those items contained different problems and different sets of rules or guidelines to be established so that the campuses would know what was expected of them, and what reports were to be submitted to the President's Office. We tried to set all up on a post-audit basis rather than a pre-audit.

LaBerge: Can you explain what that means?

Morgan: A post-audit means that the campuses go ahead and do things, make certain decisions in accordance with the guidelines. They don't get prior approval to do it. But you have your reporting system designed so that the President's Office can look over the reports and see how well the campuses are operating in accordance with the established guidelines. In other words, it's an after-the-fact look-see, an audit after-the-fact.

LaBerge: Was that your responsibility?

Morgan: Well, I or my staff. The pre-audit would mean the President's Office would have to approve before the campuses could take the particular action. That bogs the system down. That gets back to centralization.

LaBerge: Right.

Morgan: So each of those functions took a good deal of thought and discussion and planning in order to get things in shape to decentralize and then hope that they would all function pretty much the same. It was never intended that we have a bunch of cookie-cutters--everybody and everything looking like they came out of the same mold--but they still had to act pretty much as though we were a family and not to go too far astray. Now, the Facilities Manual we've talked of before covered only the physical plan, i.e. the design, construction, and operation of buildings. There were other publications, I don't know as they were called manuals, that did the same thing for purchasing, police departments, housing, parking, student unions, and all the other auxiliary enterprises.

LaBerge: So you had to prepare those? You and your staff?

Morgan: Yes. My office did. Of course, we had to collaborate with other vice presidents and with the general counsel. In case of the financing of parking structures and student housing, we had to work with the treasurer's office, also. In 1961, we didn't decentralize much more.

LaBerge: You were probably still working on the previous years.

Morgan: We were trying to get the earlier delegations of authority working. Also it's important to point out that new Chancellors were coming into the system.

LaBerge: Do you want to give me the names of those Chancellors?

## Establishing the San Diego Campus

Morgan: Yes. At San Diego there had been a Scripps Institution of Oceanography with a director. Then it was made a general campus by expanding and including what was known as Camp Matthews during the war but later transferred to the University. It was adjacent to Scripps. As part of this expansion, a Chancellor was appointed. Roger Revelle had been the director of Scripps Institute of Oceanography and --

LaBerge: We have an oral history of his.[1]

Morgan: Do you? That ought to be interesting. He was not appointed to be the first Chancellor, but rather John Galbraith, who was at UCLA. Roger Revelle left to take a position on a national level. He later returned to the San Diego campus.

[tape interruption]

LaBerge: We were just talking about the chancellorship at San Diego. And later on, I think, we'll have a whole session on your job with all the new campuses. I mean, we'll go into more detail, as far as the planning and the building.

Morgan: Yes.

## Establishing the Santa Cruz Campus

LaBerge: What about Santa Cruz?

Morgan: Santa Cruz was an entirely new campus that was a contrast to San Diego, which had a good base, albeit a small one, and they merely expanded into a general campus. Santa Cruz started from nothing up in the beautiful part of the Cowell estate. So the planning there really started from scratch, the offices--there was no office. In fact, when the Regents went down to meet at that campus, we met at a nearby church house. We should have had inspirational meetings then! So Santa Cruz started from scratch.

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[1] Roger R. Revelle, "Observations on the Office of Naval Research and International Science, 1945-1960," an oral history conducted in 1984 by Sarah Sharp, Regional Oral History Office, The Bancroft Library, University of California, Berkeley, 1986.

LaBerge: And that Chancellor was?

Morgan: Dean McHenry. Dean McHenry had been the Universitywide dean for academic planning. He and Clark Kerr, President Kerr, were very much interested in establishing on one of the campuses a British system of separate individual colleges patterned after Oxford and Cambridge. Dean McHenry had studied extensively and spent some time, not only in English colleges, but also down in Australia. So he was a natural to become a Chancellor of that campus that was set up on the concept of separate colleges.

## Fact-finding Trip to English Universities

LaBerge: Did you go on a trip to England with him to kind of review those colleges?

Morgan: Yes. The primary purpose of the trip was not entirely directed toward Santa Cruz, but it was a trip to learn more about residence hall construction and programs within residence halls. Certainly, it had a direct application to the Santa Cruz campus, in addition to the other parts, in that we learned how Cambridge and Oxford operated in their programs, not only in the housing programs, but the close tie to the academic programs. We visited several other campuses as well, which were not organized around separate colleges, but had strong academic programs within the residence hall complex on those campuses. Those of us who went on the trip to England--it was about a two-week duration, as I recall--Regent Heller--Ellie Heller--Regent John Canady and Mrs. Canady, Regent William Forbes and Mrs. Forbes, and William "Bill" Shepard from Dean [Frank] Kidner's office in the Office of the President.

LaBerge: Is this Frank Kidner?

Morgan: Frank Kidner. Yes, Dean Frank Kidner. And myself. Dean Kidner's office, through Bill Shepard, was interested in what kind of activities and programs went on, or was organized within the residence halls--partially related to the academic programs, but in terms of other social activities as well as instructional activities. It was a well-rounded--sports included--program for residential students. We were accompanied on our entire trip by the British University architect who was headquartered in London, a fellow by the name of Stanley Meyrick.

LaBerge: Okay. This was the English--

Morgan: English. But they had an overall organization for their universities quite similar to the overall Office of the President and the University of California system. Our tour was arranged by Mr. Meyrick who, in fact, accompanied us on all the trips and did a great job of organizing, making all the appointments, and we were, I can say, royally treated on all the campuses. It was a very worthwhile experience for all of us, and we did learn a lot. And we put into practice in the University of California system a lot of the program elements that we learned about over there.

LaBerge: Was that in 1961, that you took the trip? Or earlier, do you think?

Morgan: No. It was later; in '63, I think.

LaBerge: Okay.

## The Irvine Campus, 1962

Morgan: Back to our chronology. In 1962, the Chancellor was appointed for the Irvine campus. Actually, the selection and initial planning for the campus pre-dated that. I'm not sure when it actually got started. But, 1960 was when the selection was finally made, and the agreement drawn up with the Irvine Company, which owned a vast ranch down in that part of California. The President wanted us to get started on the general planning of the campus, even before there was a Chancellor. My office, of course, was the lead in this. The physical planning had to get going. The academic planning was already underway, although there was no academic program written. We had to get someone physically down there to work with the Irvine Company management in doing a host of things. Roads, boundary lines, etc.

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Morgan: We needed to get someone down there, and I didn't have anyone on my staff that I could spare, nor was there a person of the caliber we needed available on other campuses that could be spared. There were competent people in the system, but they were all very busy. A little aside as to how that person was found and selected may be interesting. I was still a reserve officer in the Corps of Engineers.

LaBerge: This keeps coming up, doesn't it?

Morgan: [chuckles] It was required that I have a two-week active duty each year. At that time, my assignment was as a staff member to the chief of research and development in the Pentagon. I was back in the Pentagon on my two-week tour of duty in 1960, and at lunch one day in one of the Pentagon cafeterias, I by chance looked across the room and saw an old acquaintance from the Corps of Engineers days in Albuquerque, New Mexico, a man by the name of L.E. Cox. (Mentioned earlier regarding the early days of getting Los Alamos built.) I hadn't seen him since he left Albuquerque to go off to the Burma theatre of operation in about 1944. He was still in the regular army, a colonel.

To say the least, we had a very pleasant reunion during that last half of that lunch hour. He was on duty in the Pentagon, living in Alexandria, Virginia, and invited me to come to their home for dinner on the following evening. I gladly accepted, and in the course of the conversation at dinner, I learned that he was due for another tour somewhere, and it was to be a "hardship" tour, meaning that he would not be able to take his family with him. In fact, he was to go to Korea. His wife--who was also a very good friend of mine and my wife from the days in Albuquerque in 1942, '43, '44--was very unhappy about this and Chiney, as we called him, was not too anxious to go, either. By that time he had enough years of service that he could retire.

So I said, "I've got a good solution for you." I explained something about the new campus at Irvine that we were just getting started, and we needed someone, a good engineer, to come out and take over the planning and initial organizing of the campus. Then to stay there and be in charge of the planning, design and construction on that campus. He, of course, was interested to know who his boss would be, who the Chancellor might be. I told him there was not a Chancellor selected as yet, nor could I guarantee the Chancellor would like him, but any new Chancellor should be overjoyed to have a top-flight engineer-manager on board. He also had a master's degree in engineering from MIT [Massachusetts Institute of Technology]. I told him that there would be plenty of other positions in our expanding organization on three new campuses, that he didn't need to worry about being out of a job, that I would place him somewhere.

Within two weeks he called me and said he would accept my offer to come out to the Irvine campus. He was a well-qualified person as an engineer and as an administrator for a big program. So, I had no question at all about his ability, and his personality would fit well with most anyone I knew. So he came out. I've forgotten; he arrived sometime summer or fall. He was directly on my staff because there was no Chancellor.

LaBerge: So you didn't have to go through another channel? I mean, you had the final say in hiring him?

## Dan Aldrich as Chancellor

Morgan: Yes. In those days, we didn't have to do what you do now to hire a person. I just hired him. [chuckles] I talked to President Kerr about him when I got back, and the President said fine, go ahead. So we did, and he came out. He became the first employee at Irvine. Later, after Daniel Aldrich was selected to be the Chancellor, and I've forgotten whether it was late that year or early the following year, well it'd be--. It was established in '62. But I remember talking to Danny about--let me back up.

Even before Daniel Aldrich was formally appointed, it was known who it was going to be. So, as soon as it was known who it was going to be, I talked to Danny about Cox, who was then at Irvine well into working with the Irvine people and the consulting architect, William Perreira. I explained to Danny about Chiney's background, and the circumstances of hiring him, and my previous association with him during the war years. I remember distinctly Danny saying, "Elmo, if he's all right with you, he's all right with me." And he'd never met him!

Fortunately, when they did meet, they got along very well, and worked very closely together, and very productively. It was a good marriage in absentia. Cox stayed there until he retired. I'm not sure when he retired. I think it was in the early 1980s. He became the vice chancellor for business as soon as the Chancellor was down there officially and began making his organization. So, it turned out to be a very good choice. He still lives in nearby Tustin, which is close to campus.

LaBerge: Didn't Dan Aldrich just retire as Chancellor?

Morgan: No. Dan Aldrich retired [chuckles] two or three times as Chancellor. He retired from Irvine as Chancellor. Then, they needed someone over at Riverside. Ivan Hinderaker had retired as Chancellor at Riverside, and the Chancellor who replaced him died quite suddenly. So Dan Aldrich came out of retirement to be the acting Chancellor at Riverside. Then he went back in retirement, but then came out again. The Chancellor at Santa Barbara became involved in some litigation with the University. He wasn't fired, he was let go. I'm not sure of the right word. [chuckles]. He became involved with some things that were not according to what they should be. So he was released, is a good word. Dan Aldrich was again invited to come out of retirement, and became the acting Chancellor of Santa Barbara.

LaBerge: Sort of like you. You keep coming out of retirement.

Morgan: Yes. But his was in a higher position. [chuckles] Then, he retired again when they selected a new Chancellor at Santa Barbara. Within the following year, he died of cancer. He was a most robust person, almost up to the time of his death. He even participated in Senior Olympics, International. He was, I think, a discus thrower or a javelin thrower. He was a great guy. He came from the Davis campus as an agronomist, as I recall. But, that's a little of the history of the beginning of the Irvine campus. We'll come back to it a little later, about the appointment of the consulting architect and the other things.

LaBerge: That was a great aside.

Morgan: Yes. I'm not sure how you're going to tie all of this together.

LaBerge: It's wonderful.

## Decentralization, 1965: Regents' Power to President to the Campuses; Longrange Development

Morgan: Not that it made much difference as far as my operation was concerned, but in 1964, the San Francisco campus was changed from a provost to a Chancellor.

LaBerge: Was that just a change in title, or was it also authority?

Morgan: Oh, both. Both. But as far as the function of my office was concerned, it made very little difference, because we had the Campus Planning Committee going and the other delegations that I've spoken of before, all in operation. So, it made very little difference. That completes the chancellorship; all the campuses now had Chancellors.

During these four years, we had been learning what was working, what wasn't working. Fine-tuning things. The Regents were feeling more comfortable, I'm sure, as time went on with the delegations that had been made to the President. The President was feeling, I hope, more comfortable with the way his staff was functioning and the way the campuses were functioning.

As time went along, the President's Office would take a look at the Regents' standing orders to see if some other things might be better administered on the campuses or in the President's Office instead of going to the Regents. In 1965, we had some more of those delegations that had a direct bearing on my part of the operations. Campuses were newly authorized to execute purchase orders up to $100,000. I'm not sure, I think the limit had been for quite a while at $50,000. The Chancellor was now authorized to move funds from one minor capital project to another minor capital project. A minor capital project in those days was one that cost less than $100,000. The limit has since been raised now to $250,000. That's inflation. [chuckles]

So, heretofore, as the capital budget went up to Sacramento, we had to list not only the major capital projects, but also the minor capital projects. The rules then were within the President's Office that--and, I think, somewhat dictated up in Sacramento--that each minor capital project stood on its own, and that if you saved some money on one, you couldn't move it to the other one. Well, we got that changed in Sacramento, and then we delegated it on down to the campuses. So, as long as they stayed within the total amount for minor capital projects, they could move from one to another, but they had to report it to us in the President's Office so we could keep track of them. It sounds minor, but it was one of those smaller things that made the program work a whole lot better.

LaBerge: More efficient.

Morgan: More efficiently. Another significant item was the location of buildings on a campus. Every new building that came along, of course, had to be sited. And the location of that building had not only to come to the President's Office, but to go to the Regents, to approve its location. The delegation that came in 1965 was part of having developed for each campus a longrange development plan that showed not the location of future individual buildings--because they weren't known--but showed by area on the campus, where, for example, all buildings related to physical sciences would be located, where all buildings related to humanities would be located, biosciences, etc. In other words, the longrange development plan spelled out quite clearly by sectors or by--they were called differently on different campuses--zones, where buildings would be grouped, so that they would be related and you wouldn't have a mishmash of departments.

So the Regents had become quite comfortable with that, and delegated to the President, and the President on to the campuses, that so long as the proposed building was to be in accordance with the approved longrange development plan, the Chancellors had authority to approve the location of individual buildings. Actually it was controlled through the Campus Planning Committee, and my office was represented on that committee. While the delegation was to the campuses, it was still, in effect, controlled. But it worked quite successfully. That was a big step in terms of reducing the number of items that had to formally come up through the system and go on to the Regents. And it saved time, too.

LaBerge: Who had developed the longrange plans for each campus?

Morgan: It was a joint effort between the Chancellor's staff and my staff, and with one other important outside member, and that's the campus consulting architect. I think it's best maybe if we did a section on campus consulting architects. To give the name of each campus consulting architect and a little about what they did.

LaBerge: You know, I think that when you originally gave me a list of topics, that is one of them. Consulting architects.

Morgan: Oh. Well, it might fit in best if we do a separate section on that.

LaBerge: Okay.

Morgan: In 1965, we took another major step toward streamlining procedures and making for more efficiency and much less paperwork flowing up and down the pipelines. The Regents authorized the President, and the President authorized the Chancellors in 1966, to award and execute construction and equipment contracts and change orders, so long as they stayed within the total appropriated funds for that building. Now, going back far enough, or at least to the time President Kerr became President, all construction contracts and most, if not all, of the change orders to those contracts--and there were always change orders to a construction contract--had to come all the way up and go to the Regents. The Regents had to approve all these things. The same with the equipment contracts.

The first delegation, and I don't have when it was, was from the Regents to the President, and the President delegated it to me, to execute contracts up to a certain limit, but not delegated to the campuses. In other words, I became the contracting officer for all the construction contracts. And I think at that time, anything over five million dollars had to go to the Regents. But later we delegated to the campuses the authority to sign construction contracts and change orders up to a certain amount. This last delegation, in 1966, was a complete delegation to the campuses so long as they stayed within the total approved budget for that particular building.

## Legislative Approval for Project Budgets

Morgan: Each building had a budget of its own that was developed when the building program was first formed and initiated, and it went up to the legislature. The legislature eventually approved a building with a specific amount of money for that building, which included all of the design, construction, and equipment that goes in the building.

LaBerge: So, for every single building on every campus, the legislature has to--

Morgan: They still do that. And it becomes what they call the project budget. Project budget differs from the construction budget in that, as the name implies, a construction budget includes only what you pay the construction contractor. The project budget includes everything else, the planning, the design, the reviews, the equipment, the move-in, everything. So, there are two different terminologies. But, what the legislature approves is the project budget. Within the University, it gets divided into the various components of design budgets, construction budgets, equipment budgets, and so forth. And it's those subdivided amounts, or some combination of them, that became the control on the campuses.

In the President's Office, we would always have to watch to make sure we did not exceed the total project budget. If, for some reason, the project budget as initially authorized by the legislature proved to be insufficient, and this was not uncommon, then we would go back to Sacramento, to the Public Works Board--not the legislature--for what was called augmentation funds. The Public Works Board had appropriated to it, by the legislature, a certain amount of money each year that could be used to augment approved projects if certain criteria were met. So, this source of additional funding was available, and still is. But you have to have very good reasons, and go up and present your case to the Public Works Board to get the augmentation.

LaBerge: So did you usually get yours approved?

Morgan: Yes.

LaBerge: Are you the person who had to present it?

Morgan: Well, I did some, but some staff member usually did that. You get one person doing all of them, they soon learned what sells and what doesn't sell in Sacramento.

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LaBerge: Tell me about the Public Works Board. Are legislators on that?

Morgan: Yes. I'm sure it must be set up by legislation, but it's a formally approved board in Sacramento. I don't know this for sure, but the organization and membership must be spelled out in the legislation that established it. The director of finance was the chairman. There are certain named members within the executive branch of the government and I think there are two representatives from the senate and two from the assembly.

LaBerge: Is it still in existence, do you think?

## Changed Conditions: Limestone Caves at Santa Cruz

Morgan: Yes. It was in existence when I first came, and it still is in existence. It was and still is recognized, that there are reasons why projects cannot be estimated too closely. Or, there are changed conditions that arise. You run into unexpected foundation problems. Santa Cruz was a good example. Foundations on buildings, you usually think of either just digging down and pouring some concrete foundations, or driving some pile in the ground, and go from there. At Santa Cruz, we discovered there were a lot of well-buried limestone caves. So you get to digging a hole or driving pile and go into a cave. I remember distinctly the first time we ran into that. No way did our budget include what we had to do to bridge the cave.

LaBerge: What did you to do?

Morgan: Oh, we had to put some large spread footings in and in effect, bridge the caves by some heavy beams. Or, in one case, we moved the building [chuckles], so it wouldn't be over one of those caves. No danger to anyone, but the caves were not detectable from the surface. Well, so much for the delegations of authority.

Then, toward the end of my term as vice president and even more so since, there has been discussion from time to time on maybe recentralizing some of the things. I think by and large that even today the part of the University that I was responsible for has remained pretty much decentralized. Maybe more so, I don't know; I'm not up-to-date.

## Complexities of the Building Program in the 1990s

Morgan: Building a building has become much more complex now than it was back in my day, largely because of the imposition of the environmental requirements. I don't mean that to be as bad as it may sound, although some of the environmentalists become very unreal in their demands on meeting certain interpretations that they place on the environmental laws. Environmental impact reports, especially on the more developed campuses such as Los Angeles and Berkeley, relationships with the community, minority quotas--quotas is a bad word, politically, but it's nonetheless real--minority requirements as they relate to hiring architects, contractors and sub-contractors, and the disabled veterans are now in the picture. A certain number of disabled veterans have to be hired. Legal requirements in contracts and the litigation that results from the slightest of anything.

You always run into problems and disputes on construction contracts as to what was intended in the design. We used to sit down as representatives of the owner with representatives of the architect and representatives of the contractor and, through give and take and compromise, work out a solution that everyone would agree with and go on from there. Sometimes the University would have to pay more because the documents were not as clear as they should be. The contractor would sometimes have to come down on his price. But at least we worked out a compromise.

Now, nothing can be worked out unless the contractor's lawyer is present at all these meetings, the architect's lawyer is present, and the University's lawyer. So, it becomes an administration of capital program by lawyers. And their interests are not always to get a job done, but rather to see who's liable and who's got to pay. You spend more money, totally, on legal fees for all the lawyers represented, in most cases, than it would be to just reach a compromise and either the University or the contractor pay whatever was agreed to. But now you pay the lawyers. That shows my bias for lawyers. [chuckles]

It's becoming impossible, almost, to get anything done. Because in the construction business with the inflation that's been going on for years, if you're delayed sixty, ninety days, six months, that means a lot of money, because it escalates. It varies, but presently it's around 3 or 4 percent per year. In the seventies it got up to 10 to 12 percent per year in escalation costs. When you have a ten million dollar building, and if you're delayed for months, that's a lot of money. So, let's see.

Oh, I was telling how hard it is to build a building these days. It's much more complicated today. In Sacramento, especially in the legislative analyst's office, it'd become more and more--I'm not sure how to categorize this--detailed, picking on details. They like to point out how much they've saved the state by requiring changes in design. Actually, they've saved pennies and wasted dollars, because their thinking had gravitated to the minutia rather than a broad concept, where the big dollars are. But, because of this minutia review they delay the projects, and the escalation in costs due to the delay in the project far outweighs most of their savings. Now, this is not to say there were no exceptions. At times they would catch things that should have been caught in the review on the campus or in the President's Office. But by and large, the procedures became almost unmanageable.

## Taking the Capital Budget to Sacramento

LaBerge: Did you deal more with the legislative analyst's office or with the legislature itself?

Morgan: Well, in the process up in Sacramento--and it varies in degree--you take the University's budget--I'm speaking now only of the capital budget, but the operating budget is somewhat the same. The President's Office accumulates the requests from all the campuses, analyzes them, and fits them into a priority order, trying to be as fair as possible to each campus, but I'm sure each campus would question that statement. Anyway, we end up with a priority list much longer in terms of dollars than the University could possibly expect to get funded in Sacramento. So, the President's Office would establish a cut-off line that would be the target for funding for that particular year. This would then be put together in a budget to be presented to the Regents. It would be not only a one-year budget, but a five-year ongoing budget, with the first year only to be funded in that particular year.

But it isn't quite that simple. The second year would have some--. You don't get all the money in one lump sum to do all the planning, design, and construction. But rather, they're spread out over, oh, two or maybe three years, depending on the size of the project and how long it takes you to design it. So it's a moving budgetary process. So the budget was composed of several elements. But once the Regents approved it, then the President's Office, with the vice president--in my case for the capital program--taking the lead, would go up and work with the staff members of the Department of Finance, and the staff members in the legislative analyst's office, to go over, in considerable detail, each project. Why the building was needed. What was to be housed in it, what academic programs. The space standards that had been approved years before for allowance of space for students, faculty, administration, and so forth, would control and would provide the yardstick by which they would analyze the size of a building. This is a way they would tie, as would the University, the student enrollment projection, the academic programs, and all the support services, into building requirements.

In other words, a per student or per faculty in the engineering school, or physics, or chemistry--all the laboratories were involved--would have a bigger unit space allowance than would students and faculty in others, in, say, humanities, where no laboratories are involved, just offices and classrooms. But these space standards were the medium by which academic programs were translated into physical programs. So they would get applied in this analysis with the Department of Finance, primarily. Also the legislative analyst, although the legislative analyst seemed to delve more into physical things of design rather than space.

Now, if the University had done a good job using the same standards, but maybe with a little different interpretation--they were subjective, there's no doubt about that because the standards were developed very subjectively in the first place. But if we'd done a good job, we didn't have too much trouble getting through the Department of Finance--the staff--and the legislative analyst. Originally, when I came in 1960, we would have joint meetings--joint review, I should say--up in Sacramento with the Department of Finance and the legislative analyst.

LaBerge: Now, is that unusual? Because doesn't one represent the executive, and one represent the legislature?

Morgan: We'll come to that.

LaBerge: Okay.

Morgan: You're exactly right.

LaBerge: Well, the only reason I know is I'm interviewing Bruce Samuel on Thursday. He worked for the legislative analyst in 1960. Did you know him?

Morgan: No. I knew Jerry Beavers and a few of his predecessors.

We used to work together, and it'd go on for maybe two or three days, straight running. Nights, too. This was not the operating budget, but just the capital budget. You'd finally agree on all of the buildings and the amount of money and shake hands, and that was it.

The next step would be to go before the legislative committees--one on the assembly side, and one on the senate, whenever they were scheduled. But at least, the preparatory work had been done. Then, when you'd get before the legislative committees, the University would--. Well, each member of the committee had before him the proposed budget, and in some detail. Usually, but not always, the total capital budget would come to the committees with the recommendation of the Department of Finance and the legislative analyst. Sometimes, but not always, the Department of Finance and legislative analyst would have their comments in the material that was already before the committee members.

Our presentation would start out with, initially, Jim Corley. And then I later inherited the job of making a brief statement to the committee on the overall program, without going into the detail of each building, but with several general statements. The chairman of the committee would then ask the Department of Finance representative and then the legislative analyst, not necessarily in that order, but each would be asked for any comments they had. And back in the good old days they would usually say, "We have already worked out any questions. We completely support what's here and recommend approval." Unless there was a legislator who had a pet project that wasn't in there, or one that was in that he didn't think should be, it was almost a pro forma exercise.

As years passed, well, personalities got involved, and I'm not sure just which year or just what people, what personalities, but--. The Department of Finance, or maybe even the governor's office, said, "Hey. We're the executive branch, and they're the legislative branch. We don't necessarily have to agree with them." So, instead of doing all of our analytical work jointly up in Sacramento, we found we were in a new mode. We'd do it with Department of Finance independently of the legislative analyst.

Now, part of this was dictated by broad policy, but the real relationship that resulted and the difficulty that went with it, was because of personalities. There was a change of people, change of personalities. Turf problems developed to where, by the time I retired, the participants would barely speak to each other. If one branch, the Department of Finance, wanted one thing, the legislative office would take the opposite stand, and vice versa. The University became caught in the middle several times.

LaBerge: Was this with the change of governor? From Brown to Reagan?

Morgan: Let's see. Brown to Reagan back to Brown. I'm not sure when it started. It didn't happen overnight. It was a gradual thing. As I remember, it was the latter part of Reagan and into Brown. So, even now, they're done separately.

## Difference between Capital Budget and Operating Budget

[Interview 7, May 14, 1991]##

LaBerge: Last time when we ended, you were talking about presenting the budget in Sacramento to the legislative analyst and the director of finance. And I wanted to ask you a question about the difference between the capital budget that you presented and the operating budget, and who took care of that.

Morgan: Yes. The capital budget, as the name implies, is the budget that supports all state-funded building, design, and construction. It was divided into major capital projects and minor capital projects. At the time I came, the division--it's a monetary division--of projects, costing $100,000 or more, were major capital projects. Those less than $100,000 were considered minor "caps"--capital projects. But, they were commonly known as "minor caps." Because of the cost limitation, they were largely renovations or code corrections and remodeling. That kind of small work. The limit has grown over the years to keep up with inflation, and I think it's currently $250,000, is the division line. The capital program from each campus was put together by my staff and they worked closely with Loren Furtado, who was the overall University budget officer, working directly under Vice President [Harry] Wellman, or President Kerr, or both. Mostly with Vice President Wellman.

A companion, or another part of the total University budget, was the operating budget. That included, as the name implies, the operations. All salaries, and it even included plant maintenance, as contrasted to design and construction. Plant maintenance of all the physical plant was included in the operating budget. Well, that's generally the division. Now, the two of them made up the total University budget. Internally within the University and up in Sacramento, the two budgets were handled by different people. They were generated and handled by different people. A review process within the University was--.

Well, first, before we get to review, the compilation of the capital budget was largely one of receiving from each campus their list of needs, which had been in the making over a period of years in terms of the need to meet growing enrollments, changing academic programs, i.e., laboratories, classrooms, special research facilities, student housing, student union buildings, parking, etc. It was all-inclusive, all the campus facility needs. It was up to the campus to spell out in written form--I should say narrative form--what came to be known as the Project Planning Guide, PPG. The procedure and the name still applies. The format has changed some, but it's generally the same.

In that PPG they had to give, as justification for any building, the expected enrollment increase, faculty increases, the total number of faculty members and staff to be accommodated in the building. They had to tie back into the longrange development plan, a part of which was the academic longrange plan as well as the physical plan. Then their needs, as expressed in total students or faculty or staff, were evaluated and compared with the space standards, which were developed and approved by the Department of Finance and legislative analyst in Sacramento in the early 1960s. It became a yardstick by which they would measure the needs of space related to the numbers of people.

They adopted it and followed it so religiously--I mean, the space standards--that the capital program became enslaved by it. In other words, it became a very handy tool in the review in Sacramento to be used in reducing programs. The space standards in the first place were developed very subjectively, but they became applied as very precise. This often happens and especially if it's to higher authority's best interest. Which it was or which it became.

The lists coming from each campus were then placed in a master list and I think every year--I can't remember an exception and I don't think there ever will be--the President's Office projection of possible funding was ever enough to take care of all the campus needs. In any budget preparation, games are played and the campuses developed their own means of playing the game. There was a lot of evidence that their lists would say, "Let's make a long list and hope to get some of it. Or most of it."

But a review process was developed within the President's Office. It was very important to make a short list within the possibilities of funding which would accommodate the most pressing needs as viewed overall by the President's Office; also, to maintain some equity among and between campuses. I'm sure each campus felt that they were shorted in favor of some other campus. But by and large, I think through the planning committee, of which Vice President Wellman was chairman, we came out with an equitable program each year.

LaBerge: Who else was on the committee?

Morgan: I'll give it to you generally. Vice President Wellman was chairman. I was on it and various members of staff were resource people. Vice Presidents Kettler and Corley were on it. Budget officer Loren Furtado was on it. I think Bob Walen was secretary. Then there was an academic representative; it was usually the vice president of academic affairs. If there were projects involving student housing, parking, [student] union buildings, or any student-related, then Vice President Kidner's office was represented on it. There were permanent members and then resource people were called in, depending upon questions that might come up.

Well, anyway, after the first cut of the priority list was completed, visits were made to each campus by the committee. Representatives from the Department of Finance and the legislative analyst's office were invited to come along, too--be present. And they usually were. In later years, these visits became known as the "scope" visits. And as the name implies, it was a visit to determine the scope of the building program for that year, for that campus. As the years went by, the visits to the campus had a strong orientation to the representatives from Sacramento because, if they were convinced in those scope visits, it meant that they would usually support them when the review progressed on up to Sacramento. As time went on, a guessing game developed among the campuses at the conclusion of each year's scope visit to guess who got "scoped" and who got "scooped."

To go back, when I first came in 1960, and for many years before that, the presentation of the budgets in Sacramento was by Jim Corley, Vice President Corley. And they continued to be his prime responsibility until his retirement. Differences developed between Vice President Corley and President Kerr, not necessarily, or maybe not at all, having to do with presentations or effectiveness of the presentations in Sacramento, but on other items before Kerr became President, largely while he was Chancellor on the Berkeley campus. I don't know for a fact, but there was evidence that President Kerr didn't fully appreciate--I'm searching for a word, maybe trust is not the right word--the effectiveness--it's not one of dishonesty--the effectiveness of Corley. But, as I became settled in my new position and found time from decentralization duties, I began spending more and more time in the presentations at Sacramento.

## The Legislators and the University Budget

LaBerge: Well, I have a question about when you met with the legislators. Were there some things that you needed to try to get them to understand about the University?

Morgan: I would say as a general rule, you had to get them to understand what the expanding program of the University was, both on the capital and on the operating budgets, so that they could see and assess the need for funding that was being presented to them. They had been briefed to some extent by either the Department of Finance or legislative analyst, or both. But, they were always interested to hear the University's own presentation, why the needs were as presented.

They would ask questions even though we had all agreed beforehand with the Department of Finance and legislative analyst. They would still ask questions, good questions, most of them. A lot of the questions were centered around a senator or assemblyman representing a certain region: why such and such a campus wasn't getting more for this or that. There was always some agitation for another school of veterinary medicine, especially out in the Valley. And the growth of the campuses: are we building too fast? Every year it was a hard time to convince--not a hard time, but we had to go through the motions of how long it takes before a building is really ready to accommodate students.

You do very well to get a building ready for use, "on line" as we say, within five years of when the need first arose. This is especially true in the state of California, where they, in my view, have a very archaic way of funding buildings even to this day. It's even worse now than it used to be. Rather than appropriating the full amount of money to design, construct, equip and move into a building all at the same time so you can get started and work right on through, they chose to give you the planning money in one year--I'm talking now about major projects--planning money in one year.

Then, you'd go back with your schematic plans, or your preliminary plans, depending on what stage you were in, and they were reviewed again by the Department of Finance and legislative analyst in order to get the money to do the working drawings. But in the meantime, with the way the budget project works, the architect, the design architect that you hired and got working, works like mad day and night to get the preliminary plans done. And then you have to stop him for months while the review process is going on because the next step for working drawings, even if approved--and they usually were--the money doesn't become available 'till the following July 1. So, you can't start up the architectural design process again until you've got the new money.

In the meantime, the design team has been assigned to other jobs and so the poor architect has to assemble another design team from his organization. So, you do the working drawings and get those done. Then you go back--again, those are reviewed in Sacramento--to support your requests for the construction money. Again, you hurry up and wait. By the time you get the design all done and your final estimates, you then have to go again to Sacramento for review and then before the legislature, to get the money for construction. Again, you don't get that money until the following July 1.

So, you can't go out to bid until you've got the construction money. Because there is no money until about July 15 of each year, the projects are put out to bid at the very worst time so far as the market is concerned. The contractors are all busy during the summertime, and they're not about to be as interested as when they've got their own organization wanting construction to fill up some time. So, it costs you more. Then you have to go up again for equipment money that is used to purchase the equipment that goes into the building. By contrast, in the small state of Utah, where I was before coming to this big state [chuckles], the legislature there would appropriate the full amount of money for everything and we'd move right along and get the building built and in use in less than half the time it takes in California. And that's a lot of dollars saved (or lost), due to the inflation factor.

LaBerge: And so this still happens today?

Morgan: Yes. And it's worse now because, as I stated earlier, the Department of Finance and legislative analyst, now, do not work too cooperatively together. So you might convince one of them, but not the other one, and they give differing views to the legislative committees. Then the number of University people who are doing the work, they have to put out a lot more brushfires than we ever had to. The review is more, oh, meticulous. If you can spell picayunish, why, that's a better word maybe. It's very minor in that it's the old saying---you're saving pennies, but the dollars are going down the drain. It's not a good process, really. It happens not only in construction, but in a lot of other things.

You get one bad example--I'll use a construction project--that has some real soft spots in, or some real goofs in the design, indicating it's not well reviewed, not well coordinated in terms of the various components that go into a building. Sometimes examples like this have been caught in review in Sacramento. And you're embarrassed about it and apologize, that it shouldn't have happened. On the campus or in the President's Office you didn't catch it. So they in Sacramento, say, "Look what a great guy I am." This is one out of maybe a hundred projects. But they apply--because of this one example that illustrates poor review--they institute procedures that applies to every project as though they were all equally bad. And it reduces the whole program to the least common denominator. That's been more and more evident as the years have gone by.

And then there have been new requirements come into the picture--environmental impact, the seismic codes have been tightened, the seismic review process. And community relations, there's more and more importance given to them. There should be, but the legal requirements have become much more stringent because there are too many lawyers. I commented on that before.

LaBerge: This obviously happened to you. There was one bad example and then they used that against you for the rest of the time?

Morgan: Oh, yes.

LaBerge: Would you like to say which example they used?

Morgan: Oh, with that many projects going on, I'd have to say you can expect one or two every year. I don't have a specific one in mind, but it did happen. You never will eliminate them. But they apply the correction, as I say, to everything, and once they apply the correction they never remove it. And so, over the years they merely build up. You have a whole stack of requirements that generate through the whole system an attitude of, "Why should we review it? It'll get reviewed up there, anyway. They're going to review it. Let them review it." It works just backwards from what it should do. Instead of developing an incentive for a good review at the lowest level, it works just the opposite.

Another thing that works against you are these schedules that are produced by the--I was going to say incoherent funding procedure--the way they fund them. A building progresses each year through the budgeting procedures in cycle, one step at a time. Because your money for one year isn't available until July 1 of each fiscal year and the budget process for the subsequent budget year begins in August-September, you have a totally unrealistic period of time to generate good data to support your new budget that goes to Sacramento for review by the first of January. You simply don't have time to do the things that are good practice and logical in order to meet the time requirements. Or else, you slip a whole year. You literally don't have time to do the coordinating and review of design or do good estimating.

So, the whole system is in need of review and repair. I might say as a postscript, I know that there's a lot of effort going on now through Vice President [William] Baker's office to try and improve this scheduling and sequencing, and even in the formulation and review of the budgets. What will come of it, I don't know. But it's a system that no one can be proud of. I don't think anyone at the University would dispute that statement. Someone in Sacramento might.

## Jim Corley

Morgan: But coming back to Jim Corley. As I gained more experience and was relieved from some of the other pressing problems I was faced with in decentralization, I took on more of the responsibility of presenting the capital budget in Sacramento. When I say "I" did, I and my staff. I certainly wouldn't want to minimize the role of my staff. I couldn't have operated without them. But, I had nothing to do with the presentation of the operating budget. Jim Corley did. He had both, generally. But there were a lot of people that supported him.

In all my years, right up until the time I left to go on my leave of absence to Washington, D.C.--and that was just before Jim Corley retired--I never once saw Jim waver from his complete loyalty to the University, and to defend vigorously, where necessary, any accusation against the University, or to provide good answers to questions that were raised. It just wasn't in Jim Corley to be disloyal to the University, nor to give other than 100 percent of his time and of himself in the defense of the

University. I just couldn't stress that strongly enough, or give enough credit to Jim Corley. Over the years he, in his good way of doing it and his honest way of doing it, had developed a very strong and loyal support in the legislature. I say this about Jim because there were some who began talking about a "let down" in Jim's effort in Sacramento as his support within the University seemed to diminish. If Jim felt this lack of full support he never showed it.

## More on the Legislature##

LaBerge: Do you recall certain legislators who were more supportive of you, in general than others? That you could depend on?

Morgan: Yes. Of course. Any committee--we worked only with committees; we didn't work with the entire legislature. On any of the committees, you have those who are friendly and those who are not so friendly. Those who understood the capital program, what it was all about, and those who were members, but really not that productive. There were some you could depend on to speak up and defend you. Again, on each committee, there were strong members and there are some not so strong, and when the strong ones speak up, they usually carry the vote.

LaBerge: Any specific names you want to mention?

Morgan: Oh, I'd have to think about that.

LaBerge: Okay. What about the political happenings on campus? Did that have any effect? For instance, the Free Speech Movement, those years. When you had to present the budget those years, what kind of effect did that have?

Morgan: Oh, yes. It was a negative effect. Well, I don't recall any particular building or project that was endangered by it, but you could just tell by the comments. Questions were asked. Even in the building committees they would ask--especially Jim Corley--about the protest, especially on the Berkeley campus. Free Speech Movement, and there's just no doubt, it made it harder to get things approved. This was especially true with the operating budget. As a matter of fact, I'm sure there was a year or two when they gave nothing at all for salary increases, faculty increases. I think the operating budget suffered more than the capital budget.

As I said, I cannot recall now any one project that they turned down because of it. They may have done--and I've forgotten now--they may have lowered the total level of funding and then left it up to the University to decide what and where to cut. I think that did happen. But there's no doubt that it was a negative happening up in Sacramento. I think it was more aimed at Berkeley, but there were disturbances on all the campuses; but Berkeley was the leader and Berkeley took the brunt.

LaBerge: Now, did the President himself get involved in the budget? Or was it mainly the vice presidents?

Morgan: Well, no. Mainly the vice presidents, but the President reviewed it before, and Vice President Wellman went over the whole thing--both the operating and the capital budget--with President Kerr before it ever went to the Regents. Then, of course, it became a President's item within the Regents, and Vice President Wellman was the principal one, but he relied on the other vice presidents to speak up and defend or answer questions that any of the Regents might have about any projects or the operating budget.

Once the Regents approved it, then it became a University budget to go up to the Department of Finance to become a part of the governor's budget. The budgets were all submitted to the governor's office, since the governor was putting together his total budget, to be presented to the legislature. Theoretically, and I underscore theoretically, the legislative analyst would not become involved until after the governor had presented it. But, because of time constraints, they worked, at least initially, worked closely together, so that the legislative analyst's review was essentially done, finished, by the time the governor presented it to the legislature.

## Techniques in Presentation of the Budget

LaBerge: Many people have told me that you were so good at handling the legislators and presenting the budget. I wonder if you had certain techniques.

Morgan: [chuckles] No.

LaBerge: But you were able to be on good terms with everybody.

Morgan: I learned some techniques at the University of Utah, working with the Utah legislature for several years. But it's just human relationships. And Jim Corley was certainly very good at it.

You never knowingly tell a legislator--or anyone else as far as that is concerned--something that simply isn't true or something that you're not sure about. It's much better to say, "I don't know, but I will find the answer," rather than to cook up an answer that turns out to be the wrong one. They soon size you up and know how much they can trust you and how much they'd better just listen and then not take seriously anything you say. So I would say that's one cardinal rule. They don't care for showmanship; they want integrity.

Then, another rule is you sort of have to be at their beck and call even though you don't have time, and it's irritating. But you hadn't better show it! A friendly smile and low key goes a long way. You never want to get in a position, and most of all, to say to a legislator, "I told you so."

LaBerge: Because you'll be back up there the next year, right?

Morgan: You know you'll be back the next year and you know they won't forget. They'll get even with you, no matter how. So, it's learning a game, their game, and playing their game with them their way. I don't mean that you give in on principle; you should stand on principle. They'll soon find out whether you're standing on principle or standing on bluff. Refrain from responding with information just to please them when you know darn well it isn't right. You better tell them, "No, that simply isn't true," and why. So, that goes a long way, whether it's with legislators or budget directors, family, or whatever it is.

But some people are simply not cut out to work with politicians. As I said, I got into it in Utah, and enjoyed it, and I enjoyed it here. You just have to know a politician is a politician. Getting anything accomplished in a legislative body is the art of compromise. You don't get everything your way. You have to compromise on most everything. Again, you don't compromise on principle, but you give and take. I enjoyed it. It's the same way working with the chancellors, the campuses, everywhere. I even found it worked, being a scoutmaster.

LaBerge: Oh, I bet. That's where you need the most diplomacy.

Morgan: You can only get so far with a group of young people by giving them an edict. You might get by for once, but they'll find a way to get around you. They'll gang up on you. The next time you won't get anywhere at all. [chuckles] So, it's just a human relationship.

LaBerge: But not everybody knows how to do that well.

Morgan: Well, everybody's not cut out to be politicians, or to be working with politicians. It's a good thing we aren't. The world's got to have a lot of different people. It was fun.

## Funding Sources

LaBerge: I have a question about the money, where the money came from for different things. The state gave some money, but then didn't you have to raise bond money and student fees? What was that?

Morgan: Oh, yes. The University's capital program is funded from several sources, only one of which is the state. Now, from 1960 to the present time, thirty years, the proportion of funding has changed quite a bit. In 1960, the state funded all academic buildings, most research buildings, student resident halls, parking, union buildings, practically everything was state-funded. There was some but a relatively small amount of private money on some of the campuses.

Over the years--well, it wasn't too long, and I've forgotten what year, certainly by 1963 or 1964--the state said they would no longer fund the residence halls for students. About the same time or soon after, the same applied to parking and to student-related facilities, union buildings. They all had to be funded by other than state funds, which turned out to be revenue bonds. These funds were handled entirely through the University's treasurer's office.

We had to do the planning and design for the project. There was no difference in planning between the state-funded or non-state-funded projects. It was just the funding process that was different.

LaBerge: But, your office wasn't involved in getting the funding?

Morgan: No, we had to work closely with the treasurer's office. Again, back in the sixties, there was a big federal program for funding--making loans on student housing. The University would apply and if approved, the federal government would guarantee the bonds at a certain interest rate. But, you had to show the financial analysis of it, that it would be self-supporting--enough net income to provide the debt service. I don't know whether or not the federal government still has such a program.

Initially, the parking facilities were funded by a parking system for the University as a whole. The income to pay for the bonds came from charging fees to park in the facilities. Again, the fees had to generate enough income to service the debt. That's to pay the interest annually, and over a period of years, to amortize the principal. To begin with, there was one parking system for the whole University. Then as requests for more parking came from each campus, if it met certain financial requirements and analysis, they would merely add to that bond by what they call a bond indenture. That's just adding some more to the original bond issue for the amount needed. There's a prescribed legal process for doing it. Later, it was--and this is quite a bit later, it was in the seventies somewhere--they split up the Universitywide parking system, and I believe each campus now has its own bond and bond indentures for the parking on the campus. So, each campus must stand alone.

I know the big split came when UCLA wanted out of the overall system, and they bought themselves out of the Universitywide bonding system. And Berkeley has its own now. I think they all have their own. But it makes a little more sense, because it's hard to make charges for parking permits on a Universitywide basis with equity among campuses. The campuses that are way out, with a lot of land and no structures to build--why should they pay a high fee to subsidize the structures that, of necessity, have to exist at Berkeley and UCLA and other campuses now. So it makes more sense. The same way on other student facilities, union buildings and so forth. They each have to stand on their own.

LaBerge: Were those bond issues, too? Like building a student union?

Morgan: Yes. The state used to put up the money, but they got out of that business. And later, they also got out of the business of providing the money to maintain those kinds of buildings. So, along with getting out of the initial funding, they also backed away from funding the maintenance.

LaBerge: Where does that money come from?

Morgan: That has to be generated by the facility itself.

LaBerge: By fees?

Morgan: By fees. Room and board fees, student fees or whatever. It has to come from something other than state sources.

Another source of funding that has really grown in the last, oh, ten years I would say, is funding from private sources. Back in the sixties, and even beyond the sixties, there apparently was some kind of an agreement between--at least in this state--

between the public colleges and the private colleges that, in effect, said the public colleges should depend upon getting its major support from the legislature, from the tax structure. "We all contribute to that," they would say, "through our taxes." "We're totally dependent on the private sector for our money." The private colleges would say, "Therefore you keep out of it."

It was, I'm sure, only a gentleman's agreement, but as the state started pulling back from its funding of all the different kinds of facilities we talked about, and also to reduce the total funding--which was not keeping up with the needs of enrollment growth, and all the research efforts being made--the public universities began turning to private sources, especially alumni, for funding. So gradually, the public institutions began to get into the private sector, into private sources for money. With the millions and millions of money being made by individuals and families and corporations, there was a great proliferation of foundations. I don't know if there are still any constraints, but the gentlemen's agreement of old seems to have completely disappeared.

Occasionally you see in the press some complaint from the private colleges, but that's largely disappeared. All of the nine campuses now have continuing--I was going to say annual, but its continual--fund raising for buildings, for endowed chairs, for any number of activities on the campus. I would guess that of the total University's capital budget now, well over half of it comes from private sources. We're talking millions of dollars now. And especially in the medical field.

A lot of people give money to have buildings named after them, and the price of a naming [chuckles] varies, I'm sure. But there are a lot of people, especially in the medical field, who through some specific incident or experience of their own, or of their family or friends, they'll make sizable donations to build a building for a certain kind of research. It's really amazing, the millions and millions of dollars that have been raised in the last five years for buildings on all the campuses.

LaBerge: So that the Development Office is a new phenomenon since you were here. Or did it start while you were here?

Morgan: It had started, but in a very minimal way. But certainly the expansion and the result, the expansion of the development offices, has been a very big thing. And I must say, they've been very successful and productive, and techniques of raising money have just blossomed. That's been the salvation of the University in terms of the building and the operating budgets. Again, as far as making up the total capital project is concerned, each campus has to program and plan individual buildings regardless of the source of funding.

In the presentation, in the project planning guide (PPG), the campus has to indicate how it plans to finance that building. The review in the President's Office is essentially the same, regardless of source of funding. A totally privately-financed building does not go to Sacramento for review. It has to go to Sacramento if there is any state money in it. The amount of money might be one-third state and two-thirds non-state, or even more proportionally from the outside. The review is still the same in Sacramento. It's the rabbit and elephant story. If there's a little rabbit, the whole things gets--. It isn't the size of the rabbit and the elephant that counts, it's whether there's any state money.

Of course, if you're dealing with private sources outside, you don't have to contend with this yearly sequential budgeting that we've talked about earlier. You can move a privately-funded project a lot faster than you can a state-funded project. This non-state funding has happened largely since I retired, but it's a big new source of funding for the capital projects. It's very difficult to get anyone to give money to remodel, renovate, and maintain buildings, or, to provide the infrastructure of utilities. No one feels happy about giving money for something you can't see, i.e., the underground water pipes or sewers, or anything like that. It's a little hard to put a name on a sewer line. [chuckles]

LaBerge: But, those things are essential.

Morgan: The buildings won't work without them. So, let's see now. I think that pretty much wraps up the Sacramento scene.

# VII VARIOUS TECHNIQUES IN BUILDING

## Construction Management

LaBerge: With all of this--you know the talk about the way the budget had to be presented year after year--was your idea of construction management an answer to that, or is it something different? Either way, I'd like to hear about it.

Morgan: Well, construction management means something different to nearly everyone who might use the term. The traditional way of building a building is, of course, for the client to say what it needs. And this is, believe it or not, a very difficult thing to do, as simple as it sounds, to do it in a logical way.

The majority of the clients, including the University, and maybe you as a housewife, you say, "I want a home. I want to build a house. Let's get an architect and let's get going." Before you do that, you've got to sit down--and whether it's your house or a building on a campus--conscientiously put down on paper what you're going to do in that building and how much space you need for what, and what kind of services you need, what extraordinary features there should be in the building. And put it all down and get an estimate made, and there are ways of estimating space before you get an architect. And you go through a planning process and get it all approved by all who should. That's before you start the design.

Now an architect has a contribution to make during this planning process, but it's not the architect that should steer the planning process, but rather the client. This gets mixed up all the time. And there's no better, more clear-cut way to run the costs up than to put the architect totally in charge of the planning, with the client being in an advisory role. I must add parenthetically that not all architects would agree with that, but it happens. So anyway, you, the client, do the planning. Certainly by the end of the planning you have selected, by whatever means, an architect. In the case of the University, we've talked a little bit about the evolution of the different architects. We might talk a little more about it.

But anyway, you have an architect, and he designs the building. First, the schematic drawings, and then the preliminary drawings, and then the working drawings. Each one getting more and more detailed. And with each one, changes on the part of the client become more costly. The architect then ends up with a set of plans and specifications and bidding documents. Also an estimate of cost.

In a public institution, you have to publicly advertise for these bids. If you're a private corporation, or if you're building your own home, you can go directly to a contractor that you know and have faith in, and can negotiate with him. Or you can pick out three, and have each of the three submit a bid, and take the lowest. But, as a public institution, you have to put it out; anyone can bid on it, whether they're qualified or not. And they do. And again, you are obliged by law in California to take the lowest bidder. And that finally got amended after much trial, to insert the word "responsible"--

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LaBerge: Okay, the lowest responsible bidder.

## Prequalification of Bidders

Morgan: That sounds easy, but then you get into a squabble--that's putting it mildly, in some cases--as to what the word "responsible" means. If you get a low bid that you can tell by the experience of the firm that he simply has never built a building of that size or complexity, or if the low bid is, oh, a lot lower or inordinately lower than the second bid, you know something has been left out, and he'll try to make it up on change orders. So, you decide that he's not--that he simply can't handle the project. Or else you check, and he has a bad reputation, so he's not responsible. So you award the contract to the second low bidder.

Then, not all, but some, the low bidder in terms of money, his integrity or his manhood or something has been challenged. So he hires a lawyer and sues you. And he'll usually come up with a restraining order that stops the whole process until that is resolved. This has proliferated a lot, along with our whole legalistic society. They think nothing of getting a lawyer and getting a restraining order until you prove or demonstrate to the court why he was not responsible. This puts the manager of the project in the position of thinking twice before he turns down anybody on a low bid. So to try and get at that, we got into the prequalification of bidders.

LaBerge: You personally, or other people in the state, also?

Morgan: Well, it certainly wasn't invented by the University. We began using it, and I don't know how or when it originated. But we began a program to prequalify bidders. This was accomplished by having the prospective bidders fill out forms giving their experience by size of jobs and complexities of jobs and so forth. So you would end up putting them in categories of--oh, I don't know--a hundred thousand and above, five million and above, ten million and above. Then, when it came time to bid, you would send your notices only to those who had qualified, I mean the category that prequalified for that size of job.

This becomes very subjective also, because a big contractor that can--oh, I should have added another very important qualification item, i.e. their bonding capacity. There are several kinds of bonds. One is a bid bond, another is a performance bond and then liability bonds. So the contractors would have to list their limits, and you could check those limits by going to the bonding insurance companies that they listed. Then, you'd have to be careful that at the time bids on your particular project were taken, he may be right up to the upper limit of his bonding capacity, or he may be--his financial statement figures heavily in the prequalification. And that changes.

He may have so many projects--. A contractor has to do at least thirty days of work before he gets paid anything. Then, a client that's slow in paying--. He may have another thirty days of working capital tied up to where he's stretched to the limit financially even though he's a good contractor with a good record. But you'd probably sink him if you gave him another ten million dollar project before he has some of these other projects finished and his money from them. It all sounds good, but it becomes a very subjective thing to administer. So that plus the lawsuits you'd get into, we didn't continue with the system. I don't know how long we had it. In fact, it goes and it comes. You use it, and then you get in trouble, and then you drop it.

So then the next thing we tried was what's called "construction management." Oh, let me finish up with the selection of the usual process. After you've selected a contractor and you've given him a contract, get him all signed up and everything, then someone's got to manage the project. Management means the inspection of the contractor's work, administering the contract documents, the pay estimates, the change orders, and all the other decisions that have to be made. One way of doing it--and this is done especially in the private sector--you turn the whole thing over to the architect to do, the one who's designed it. The architect will hire the inspectors, and he'll take care of the whole thing. All the owner has to do is put up enough money to cover whatever the architect does. There's some virtue in the process, but there's some problems, too.

Another way is for the owner to take over the whole thing, and use the architect only when the questions of design come up--what did he intend in the design. Also, at least in the state of California, when a building is completed, it has to be certified that it is complete according to the approved plans and specifications. You also file a notice of completion in the county recorder's office, and it has to be signed by the architect of record. So, you can't completely dismiss the architect, even if you're mad at him.

But a third way of doing it, conventionally, is the owner does a certain amount of the work, and the architect does some also. You divide up. More usual than not, the owner hires the inspectors, especially in a big system like the University of California. With as many projects going on as there are on any one campus, it's much cheaper for the University to have a cadre of inspectors that they can assign from one project to another as needed, than to pay the architect to hire all the different kinds of inspectors that are necessary for only that one building, regardless of the size. So, that's the way that the inspection has been done, by and large over the years, in the University of California system.

There's always a discussion and differences of opinion between the architect and the owner as to what each should be doing, but they've pretty much settled on that, under the existing architect's agreements, especially since the liability has grown in such importance due to the size of awards by juries. The architects are very happy to have someone else to do that part of the work that is apt to produce liability suits. And they'd just as soon have someone else do all the inspection.

They must, however, look at the--it's not called inspection--but they must examine the work as the construction is going along, sufficient to satisfy their own needs, interpretations, or whatever you want to call it, so that they can certify that the building has been built according to plan and specifications. That interpretation varies considerably among architects, or architectural firms. But, each has to live with his own conscience, or his own lawyer, and you can usually count on it that they will do the least, because they want to make the most money out of it. What they get for those services is pretty much a fixed sum, a part of their overall fee.

So that's the normal and the traditional way. Now we come to construction management.

LaBerge: Which, I think, was your idea. Wasn't it?

## Building Components

Morgan: Well, no. It's existed in the--. Before we come to construction management--we might have to do that next time--there was a program that I helped get started, I guess working with NACUBO as much as anyone else, and with an architect by the name of Ezra Ehrenkrantz, who was a local architect. As a matter of fact, he was on the faculty at Berkeley. He's not there now, but he was then. He was teaching part-time and part-time in private practice.

This experiment started out to build a building by components. In other words, a building is made up of all kind of components, starting with the structural components, and the wall components--more commonly called the enclosure components--the heating component and air conditioning component, electrical components, and so forth. In other words, breaking a building down into its components. Then, designing these components so they'd all fit together, but ordering the components directly from the manufacturers.

We used to say, it's like ordering a Tinker Toy set. They came all boxed up, and then supposedly they'd fit when they got to the site. But you were eliminating a lot of middlemen. Instead of buying all of the material and putting it together on the job, the components were all assembled back at the factory, and shipped to the job as a total unit or package. Then put together on the job with much less labor cost than needed for the conventional methods. We started this on housing projects. We got contractors in and there was a lot of interest.

We developed the idea with other universities; it was a joint project. I remember Indiana University had a vice president who was very interested in it. It was a new innovation. Actually, I must give credit to Ezra Ehrenkrantz; it was sort of his brainchild. We all got together; we had a planning committee, I've even forgotten who was on it. I was on it, the vice president from Indiana, Ezra Ehrenkrantz, and I've forgotten who else. It was sort of a pilot project.

The place that we tried it out was down in San Diego. We had users involved, heavily involved, as to what kind of constraints and tolerances and so forth--the uses the building would be put to. They were on this committee. We got the components designed and built. Then we got a contractor lined up. I've forgotten now the basis on which we selected the contractor. We had to inject some bidding, and I think that was the site preparation and some other things.

Independent of the contractor, we'd been working on all these various components, and had lined up factories that would produce them. The contractor knew beforehand where all of the components were coming from and when. We had specifications for assembling them and making them work. We had a very successful project at San Diego. I've forgotten exactly, but it came in at a price a lot cheaper than we were building conventional ones for.

LaBerge: And was this housing at San Diego?

## More on Construction Management

Morgan: It was student housing at San Diego. We were getting set to extend the system to academic buildings. As a matter of fact, the pilot project for student housing was, as I said, at San Diego. The pilot project for an academic building was at the University of Indiana. And they built one that way. We ran into political trouble with contractors, insurance people and suppliers, you name it. We were cutting into their territory. I've forgotten all the details of all the hurdles that were thrown in our way and we finally gave up, abandoned the whole idea. But it worked, and we would have continued using the idea except we got scuttled in the political arena. It's awfully hard to overcome inertia that is built into lots of things over periods of time. It's always hard to turn them around.

Well, then, there's another type of project management, more in keeping with time-honored conventions, where you hire a separate outside firm, not necessarily an architectural or construction firm, but quite often; or, a combination of the two, known as a construction manager (CM). The CM does not do the planning or the design, but manages the construction. Again, in effect, this construction manager, who is selected by the client, takes the place of the client to a large extent.

This method is used quite extensively in private construction because a lot of private companies don't have in-house capability to manage design and construction and therefore, contract it all out. Since construction management uses some procedures and methods not entirely compatible with the state law, we had to find ways to stay within the meaning of the law.

Also, in construction management you usually--not always--divide a project into several packages. So instead of bidding the entire building as a total package, with all of the components and elements in it, you divide it up into packages so that you get started on your first package while you're still designing the second, third, and so forth. For example, as soon as you know the footprint of the building--where it's going to go--you can easily put together a set of plans and specifications just for the site clearance, the excavation, and even into some of the foundations and relocation of utilities. So you'd put that together; you'd put it out. You'd bid it as a package. Your construction manager, well, he can act as the general contractor if you want him to. Or, you get a general contractor, selected by competitive bidding by a totally different process than the bidding of a regular job--traditional job. So you can have them both.

But the method we started with, we selected a general contractor by advertising, and I won't get into the detail of that unless it helps some here. Anyway, you get a general contractor, then your construction manager handles working with the architect and the contractor. They put together all these packages. While the contractor is doing all the excavating that has to go on anyway, you're finishing the structural package. And you work out your timing so that you've advertised and selected a contractor to do the structural; get him ready to start his work by the time the contractor for the first package is ready to have him start. Then you get into subsequent packages that come along. Of course, the structure includes the roof and everything, but then you've got to put the envelope on the building, or the cladding, as they call it.

LaBerge: The what?

Morgan: Cladding. You can enclose the building, it rises structurally, but you've got to get your pipes and your electrical systems in place. So you have to coordinate all the different packages so that they work together as the building goes up. You try to have each bid package awarded on an overall planned schedule so that the subcontractors will know when they can start and not have to submit a bid months in advance of when the work might start.

The construction manager, in behalf of the owner, takes the bids and gets the subcontracts ready to award. But then, the contract becomes a contract between the general contractor and the various subcontractors, such as structural, electrical, mechanical, etc. They become a subcontractor of the general contractor. The relationship between the general and the sub becomes exactly the same as in the traditional method. But what you've done is selected the subcontractor on a timely basis at a time when he knows he can go ahead and begin work right away.

Let's illustrate: assume you have a big building to build and you proceed in the traditional way in 1991. You take a bid on the whole building. The contractor and all of his subs have to price out (estimate) everything all the way through the building out to the end of construction--say two years ahead. It's going to be two years down the road before the man that's going to do the ceilings, the painting, and the finishing touches, etc., on the building can start his work. Here in 1991, he has to guess what the labor and material prices are going to be out in 1993.

Any contractor or subcontractor doesn't stay in the business very long unless he puts in a big what they call "ignorance factor." It's a contingency to protect himself. If prices have been rising at a certain percent, he's going to extrapolate and figure they'll probably increase. If some prices go down, he just makes more money. If he doesn't use all of his "ignorance factor" he still gets all the money. So the closer you can get the bidding time of the subs to the time they can begin their work, the better the bids (usually lower) and the less the "ignorance factor." There's all versions of what authority you want to give the general contractor and the construction manager.

## Dean Gustavson at Utah and Berkeley

Morgan: But the one used initially on the Berkeley campus, was originated and demonstrated up at the University of Utah. President David Gardner was then President of the University of Utah, and he invited me up for a couple days of consultation, to see why a big thirty-five million dollar expansion of the medical center was not progressing. I ended up being a consultant for about six years. He and the governor and the state building board turned the management of that big project over to me and to a local architect by the name of Dean Gustavson.

LaBerge: So you became the construction manager of that?

Morgan: We became construction managers.

LaBerge: Together?

Morgan: Together. Well, he was the on site manager and I was a consultant to him and the University. But, yes. We worked as a team developing this procedure I've talked about. Chancellor Heyman had learned about what had been done at Utah through his friend, David Gardner, and he wanted the same kind of management applied to the big bioscience complex on the Berkeley campus. So Dean Gustavson and I became the construction managers for the bioscience project, which is still going on. I'm retired, so is Dean Gustavson, but it's still going on. [chuckles] But there's been a lot of variations of this original method with varying degrees of success on different campuses.

LaBerge: While you were still here?

Morgan: Well, some started, and it's expanded more since. Then we also tried "design and build;" that's another procedure. I guess I was certainly interested in, and I tried to foster and get pilot projects to try out these various methods, to get away from the old traditional way of doing things. The traditional just takes too long and there are too many uncertainties.

## URBS and ABS

[Interview 8: May 22, 1991]##

Morgan: At the conclusion of our last session, we were talking, I believe, about the component building systems for residence halls. I couldn't think of the official title of that project at that time, but it's the University Residence Building Systems--URBS for short. The companion project was for Academic Building Systems--ABS for short. The University of California took on the URBS project, at least the pilot project, and Indiana University had a pilot project for building an academic building.

LaBerge: Which campuses did you use this on, URBS? Which buildings?

Morgan: It was a residence hall at San Diego. And it worked quite well. But the reason it didn't continue as we had hoped was primarily that about that time, the residence hall requirements nationwide decreased considerably. The demand for student housing on campus dropped sharply, and the success of the program was dependent upon a large national market for the companies who were mass-producing the various components of the building.

LaBerge: Isn't that amazing, because now, students are clamoring for more housing?

Morgan: Yes. It goes in cycles. By the time we got all the research done, and the companies that we worked with to set up to manufacture the components of the program, we were just about at the height of the cycle, and the demand curve turned down sharply. That was the principal reason it was not followed up. There was also opposition from the construction industry in general, since their livelihood was dependent upon designing and building buildings in the traditional way rather than buying them off the shelf and putting them together. It's awfully hard to change traditional ways of doing things, whether it's in buildings or in any other category of work. So anyway, it worked out in our case. I don't have the comparative figures to show the differences in cost, but it was successful. The buildings at San Diego are still in use, still functioning very well, so far as I know, and the occupants are happy.

LaBerge: Well, it was worth a try. You tried some other innovative things, too, didn't you?

## "Design/build" System

Morgan: Well, they had been tried before, but we tried to adapt them to University uses, or more specifically, uses on specific campuses for specific buildings. It's a fairly common, well-known method, especially in private sectors, what is called "design/build." This type is when you have a defined budget, not necessarily a fixed budget, but you've got the money in hand all at the same time, and a very short design and construction period. So you take bids from firms who will give you a fixed price for doing all of the design and construction of the building, all under their supervision.

Of course, the client has to watch the design and construction throughout the whole project. But this has not been too popular because it's too hard to control the quality and the budget, especially when you have to take the low bidder. In fact, it is very difficult to determine who might be the low bidder because there are so many subjective items that have to be considered in evaluating a bid. It's especially hard to handle in the public sector, where the "low bid" is by far the predominant factor in awarding any work. So it's very hard to set up a bidding document that lets you do this objectively and withstand the scrutiny of all the people in the public sector who like to run everybody else's business but their own.

LaBerge: Is there a specific building on one campus where you used that?

Morgan: I don't know specific buildings. They tried it at San Diego, Los Angeles, Irvine. The math-science building on the Berkeley campus is--well, we'd better call it the Math Institute, which is up near Grizzly Peak--was done that way.

LaBerge: Now when you did that, what was your involvement in it? Were you the one who went around and--?

Morgan: I was then director of facilities on the Berkeley campus. It was our responsibility to write the program and establish with the user what was needed and any special features, and then write up the parameters by which we would issue an invitation for prospective design/build teams. We then had to invite the bids, evaluate the bids, and award the contracts, and do the regular inspection and control work. It worked out well, but it was not a complicated building. We had a very good cooperative user who worked with us all the way. Also, the funding was totally from outside sources. By that I mean there was no state money involved. As I recall, all of the money came from the National Science Foundation.

LaBerge: If that had been used on other campuses when you were vice president of physical planning, would you have been going down to check on those? Or have someone else do it?

## Design Competition

Morgan: No, I wouldn't personally. Someone with my staff would, yes. We'd have meetings about it, but I wasn't personally involved. The one on the Berkeley campus I was personally involved with quite a bit. Then another method of design, at least, is an old one used by the AIA--American Institute of Architects. Generally speaking, architects like it, especially the "big name" architects. It's called "design competition."

On the face of it, it sounds great. It has a great appeal to the Board of Regents or boards of directors of corporations. The title has a connotation of getting great architectural firms with innovative designs, earthshaking designs, or whatever you want to call them, with follow through construction. We tried it on two or three campuses. Again, it was on projects that were non-state-funded. You sometimes get very good design, but in all the cases I know of, they were generally a disaster in terms of detail design, and especially in control of the budget.

LaBerge: Because the architects are submitting it to win?

Morgan: Generally, yes. You have to conduct these competitions under very strict rules put out by AIA. The competition is judged by a panel of architects, and they're usually very good ones. And of course, they are making the award on the basis of the appearance of the design, the aesthetics, the innovation, with very little regard to a budget or as to what goes on inside of the building, or how it accommodates whatever program you have to accommodate in the building. I can see where it would work very well on some kind of a monumental structure that was truly a monument, rather than something to be used.

After the winner is decided upon, the client doesn't have the luxury of working with that winning architect to change the design in any way to fit the budget or whatever you may need better to accommodate the program intended for the building. You must go ahead and build the design as submitted. Otherwise, you break the rules and cancel the competition.

LaBerge: And when they are doing the design, do they have any budget given to them? Or not?

Morgan: Oh, in a general way. There's no cost estimate that comes in with a budget with the design. It's just a concept. So then you get to developing the budget and as the design proceeds, you find you don't have enough money. Well, you can't change the design. So you've somehow got to get more money or do with less in terms of a total building. The one that comes to mind most vividly right now is the [University] Art Museum on the Berkeley campus, or south of the Berkeley campus. It was considered by the panel to be a brilliant design, with its step-down profile. And I must say, it is interesting.

But getting it built was a headache, and it's been, I think without doubt, the hardest building on the whole campus to maintain at any reasonable cost. The various breaks in the roof line and all the different shapes of the roof produced a roof that never shed water entirely. It leaked from the first rainstorm after it was done. Thousands and thousands and thousands of dollars have been spent on trying to correct the problems in the roofing, and as far as I know, it still leaks. They've had some internal problems as well. It was very difficult to build it within the budget; in fact, the campus had to go back and try and raise some more money. It was a nightmare from the time the winner was selected.

LaBerge: That's why some of your other methods of having the architect/engineers and construction people in on it seems more valuable.

Morgan: And to have a good program, and a good cost estimate, and to have some control on what the final design is to be like and good reviews from the very start. This is not to say that the design under this method is not reviewed as the design proceeds. But, the client is very limited in what changes can be made if you don't like what shows up in the detailed design. That has not been a very popular method of constructing buildings, so far as the client is concerned. As I said earlier, it sounds great to a governing body who wants something unique and different from the old mundane. They want class, they want something to really show up. Trying to get a Frank Lloyd Wright everywhere, or any of the famous architects, they simply can't resist the temptation.

LaBerge: Would you have gone to the Regents after that, or even before, and explained why you thought it might not work out?

Morgan: Oh, yes.

LaBerge: How did you do that?

Morgan: Of course, whenever we used a design competition, we would have to get Regents' approval to go that route and then take the final decision on the winning design to the Regents. The desire to use that kind of a procedure would come up every so often in the Regents, and each time we would go back and explain the difficulties that we had had using it, and usually they would back down and say, "Okay, then. Let's go the usual route, but let's try and get some of these famous architects to be interested in coming out from the East or wherever to design some of our buildings on the usual basis." We did that with some good results, and some not so good. Because these famous architects, who are famous for one reason or another, are not always compatible with what you have in mind.

Secondly, it's well and good to think you're getting this building designed by such and such famous architect, but seldom do you get that famous architect on the job at all. In fact, you very seldom see him. Seldom does he spend even as much as five minutes on the project; he has someone else in his office do it. So we did much better taking very good and innovative design architects from California with a good, but not a worldwide, reputation, but who put his own time in on it, and produced very good buildings.

What is a good-looking building and not a good-looking building is somewhat in the eye of the beholder. It was very difficult before the Grounds-Buildings Committee of the Regents to get much of a unanimous opinion on the various designs that were taken to them for approval, especially with so many pseudo-architects on the committee. I guess even more so when there are real architects on the committee. [chuckles] There have been some good examples of that. You soon learn the likes, dislikes, or the idiosyncracies of individual committee members.

LaBerge: You've mentioned Regent McLaughlin, but is there another one like that?

Morgan: Oh, Regent [Catherine C.] Hearst liked blue coloring on buildings. I guess the red-tile roof of Regent McLaughlin was so pronounced it became a joke among the Regents. But, I do remember that Regent Hearst was very partial to blue colorings. I could think up some others, but I won't. [chuckles]

## Process of Selecting Architects

LaBerge: When you would need a building built, did you go searching for architects, or did you just advertise openly?

Morgan: Well, it's a little different then than now. Then, we had a file we kept for each campus. Each campus kept up a current file of architects in their area, not necessarily in their area, but it divided roughly into southern California and northern California architects. It was sort of an unwritten "law" ["law" in quotes] that the southern California architects would stay in southern California, and the northern ones would stay in northern California, the Tehachapi Mountains being the division between north and south.

From this list of architects we would select, oh, I don't know, maybe a half a dozen or maybe more, to see if they were interested; also, to see if their capacity was such that they could take on another building. If they were interested, and they usually always were, we would make sure we had up-to-date information on them as to their organization, their intended design team, and their ability to proceed. We would always check to see how well they had done on the last buildings they had done for us.

Then, internally within the University, each campus and some representative from my office, usually Bob Evans, would decide on three architects to be considered for a major job. Those lists were presented to the Campus Planning Committee. And as we discussed earlier, the campus consulting architect and the campus architect were members of that committee. But even before the list of three went before the Campus Planning Committee, the campus architect and the consulting architects were either in on the selection or had been consulted. So it was sort of a proforma procedure.

Then the three names went on to the Regents for approval, in ranked order. Very seldom did the Regents do other than select the first one on the list. Regents' approval was always on the condition that a satisfactory contract could be negotiated with the architect. We never made a part of our selection what the fee would be. We certainly didn't want to get into the business of taking the architect who said he would do it for the lowest fee, because that only invites disaster. If he's not getting paid enough to cover his expenses, he's certainly not going to do the detailed, thorough job of analysis, alternative designs, checking, etc. He'll take off-the-shelf items, then the client pays for them many times over what an additional one percent in fee would amount to.

So the recommendation never had as a part of it what the fee would be. The University itself did have a schedule of fees that we used. And there are many factors that go into determining what a fee should be. That was left to the administration. It takes much less architect's time to design an office building than a complex laboratory building. So we had different fee curves for different types of buildings, and the architects generally accepted them. Of course, they always wanted more money than we were willing to give them, but they went ahead. So, let's see. What else?

## Campus Architect

LaBerge: One more question about the campus architect. It sounds as if the campus architect does not do design.

Morgan: That's generally true. Well, very little. They did, let's call it, in-house design. They did small projects, i.e., minor projects then initially under one hundred thousand, which mostly covered renovations, retrofit and remodeling. A lot of those jobs were done in-house, although as time went on and we were encouraged first, and then required later, to use minority firms, small architectural firms, these small jobs were turned over to outside architects. That's architects and engineering firms.

So the campus architect and his staff had a big job working with internal users--academic departments or other departments--in writing up programs and estimating costs that could be used for budgeting purposes. Also in siting the buildings, for relationship to other buildings, for existing utilities, and all the other things that make up a project. The campus architect, not 100 percent but nearly so, did all of the inspection on all the projects, whether designed in-house or by outside architects. The total inspection was done by the campus architect's staff.

The only exception to that was when you get into construction management, which we've already discussed. Then the construction manager usually does the inspection. In a few rare cases, the architect performed what was called a full services contract, and furnished the inspection as well as the design. But, that was quite rare.

### Project Evaluation Sessions or Value Engineering##

LaBerge: I had one other phrase jotted down, "project evaluation sessions."

Morgan: Project evaluation--?

LaBerge: I'm not sure where I got this, but maybe Bob Evans told me that. Maybe as the project was going on? Or afterwards?

Morgan: Perhaps you mean "value engineering." This was started after I had retired and came back to help manage the bioscience projects. We called it "value engineering," but it is also called "project evaluation." This is not a new procedure in the profession, but rather a new application to Berkeley and to the University system. In fact, the air force developed the system during, or soon after, World War II. What it amounts to is, at the various stages of design, after schematic drawings, preliminary drawings, and working drawings, you evaluate or review the project using a rather formal procedure. You tell the architect right from the beginning that his design, which includes the engineering part of the design, too, will be subjected to this kind of a review.

What it amounts to is selection of independent architects and engineers as reviewers, and you also include representatives of the user from the departments who will use the space, the people who do the maintenance, the campus administration, and anyone else who might have a legitimate interest, to meet for usually a two-day session. All participants would have received beforehand a set of the plans to be reviewed, a narrative of what was involved, and a detailed cost estimate. I should add that a part of the review team were outside cost consultants.

At the beginning of the two-day session, the architect and his consultants would make a presentation of what was represented on the plans about to be reviewed by all assembled and for discussion. After the presentation--and this usually took about half of the first day to explain all the details--then the review participants were assigned to working groups. There would be a group for structure and substructure, a group for electrical, a group for mechanical, a group for siting and landscaping, a group for internal division of space, i.e., especially in a laboratory building, the laboratory benches and all the equipment that was to go in, and everything else. In other words, a total review of the building, of the design for the building. Each of these groups had assigned to it the appropriate member of the architect-engineer design team that would go over the details.

Well, one of the rules of the review session that everyone knew from the very beginning was that nothing was sacred. All comments and questions should be freely laid on the table, but each group understood that whatever was laid on the table, they had to evaluate it and either discard it or move it forward in the review process. They knew at the end of the first day and about noon on the second day, they would have to make progress reports.

Each group--and there was a group leader appointed to begin with, and someone to take notes--had to list all ideas on prescribed forms. The forms were given to them at the beginning of the group sessions on the first day. So it wasn't like kibitzing and having a good time. They had to list every suggestion that was made and what disposition they made of it, pros and cons. If and when they came to a consensus--something was a good enough idea to put forth to the whole group--then they'd have to get a cost estimator to indicate what the cost implications would be.

The groups were all encouraged to come forth with ideas whether they cost more or less. The basic idea was to get the most cost-effective building possible and the design best suited to user needs. It wasn't only to find out how costs could be cut, because some things could be added that would cost more initially, but less in the long run. So it had to be a cost-effectiveness procedure.

Then, well--there's the example of the heating and ventilating group deciding they had a great idea. They wanted to change something in the heating-ventilating system. They'd have to go over to the structural people to see if the structure would let them do it. They may want to run a big duct right through a girder of a beam, and that wouldn't do. Also, the electrical people, if they want to make changes they'd have to check with the mechanical and--. So there had to be ongoing interaction.

But on the final day, all of these pros and cons and pluses and minuses got summarized into suggested changes. And they would be ranked, priority order of importance. These may not be the correct names for categories they were to use but essentially they were: "must," "desirable," and "further study." The user representatives--this was an eye-opener for them, too. Because they understood for the first time, really, what their workspace was going to be like, and some of the limitations and some of the things they thought they wanted to do, they couldn't do. But, in most instances changes were made so that they could do them.

Most of all, the design team especially had to understand from the beginning that this was sort of an ego-bruising affair. Without fail, we would start out--we did this on many projects--the architect would start out with his ego pretty well showing. By the end of the first day, if he had not given up and gone home--he never did--he was getting used to the idea that he was getting picked on and that nothing was sacred. Then he'd get over that, and then he'd get with it. But I've never seen--I don't know, I guess I participated in six or eight of these value-engineering sessions--one where we didn't improve the design and at the same time, save money.

The construction schedules were also subject to group discussion. It's well and good to say you must have a building ready for use by a certain date because some research work has to be done; but if it's a physical impossibility to get it done on that kind of a schedule, you might as well know about it, because all that happens in the bidding--when you get to the bidding--is the contractor knows that it can't be done. So he'll put a contingency in his bid just to cover what are called "liquidated damages." I should add, we had contractors as part of the evaluation team, too. So it was a very upfront, ongoing total review. It worked out very well. I don't know how much it is carried on now. Like any good thing, they tend to overdo it or "undo" it. It's not for all projects; it takes a large project to justify it. It takes a lot of effort to make one successful.

LaBerge: Which project in particular did you do it on?

Morgan: We did it on all of the four bioscience projects, the four parts of the overall bioscience project. I also participated in two for the San Diego campus and one in Irvine.

LaBerge: Which building? Were those lab buildings, too?

Morgan: Yes. I've forgotten just which buildings. There was also one at Los Angeles. You can do it in varying degrees, either in a lot of detail, or less detail, just hit the highlights. At Santa Cruz, they did--following the outline and the general procedures of value engineering--they did one on the programming. In other words, before there was any design, they exposed the proposed program--I've forgotten what building it was--to the same kind of a review to see how sound the program was even before they started any design. So it's just an organized, well-structured review procedure that was used. As I say, it's not new in the profession, but we tried it out for the first time in the University system.

In a somewhat simplified sense, the architect in his own design goes through some of this--they should, anyway--in that he tries out a certain kind of a design. I'm not talking now about aesthetics, but rather the internal design, structural, mechanical, electrical, etc. Someone in his own organization, one of his consultants, has an idea and suggests: Look, if you change this, or put in this different kind of equipment, or do something else, it's better. So the architect in his own organization goes through some evaluation. But this comes back to what was said earlier about fees: if you try to squeeze the architect too much on his fee structure, to where he can't make money, he's not going to do any of this. He'll just take some design he's used somewhere else, or take a supplier of heating-ventilating systems, and use his off-the-shelf design and just try to "plug it into" the building.

And that's one of the reasons why we have more heating and ventilating problems--air conditioning included--in all of our buildings than any other problem. After they're finished and the users get into them, they complain because they're simply not designed for the program that goes on in the building. They just get a prepackaged unit and stick it in. Sometimes it works, sometimes it doesn't. So the owner ends up, one way or another, paying for it, whether you pay it in fees, or you pay for fixing things up after the building's built, or early maintenance costs. There's not many ways to do things without everything adding up to a common denominator somewhere in the life of the building.

I should add parenthetically that there is quite a movement on now, nationally, to develop a system for use in the public sector that gets away from an almost universal requirement to award bids to the low bidder. The building industry is so competitive and so fraught with legal requirements, or legal participants, whichever way you want to look at it, that the low bidder--and they must have a society of potential low bidders--figure out how to play the game a lot better than the clients do. They look for loopholes and bid accordingly. They include in their bids an awful lot of contingencies, knowing that there are different things that can happen. They're better organized for their livelihood than their clients are. So how far it'll get and what kind of constraints they'll develop I don't know. I personally think something has to be done to change in some way what has developed within the broad low bidder syndrome. To the average person in the public who knows nothing about construction, and this applies to many of the legislators as well as clients, there's nothing greater than taking bids and accepting the low bid. That's the best--

LaBerge: But it sounds good.

Morgan: Sounds good, that's just like motherhood. And that's a tremendous thing to overcome. But there has to be some way to build a better mousetrap. There's nothing better a politician likes than to get up on a stump and tell about the waste of public money because so and so awarded a contract--to use this scenario--awarded a contract to someone whose bid was X thousand dollars higher than the lowest. But little did they realize when everything's all over, how much more that low bid cost. Power to them!

## Suggestions for University Building Program

LaBerge: Well, in light of the University's plan to build new campuses, what suggestions and advice would you give for ways to do this?

Morgan: Any new campus is a complicated procedure, starting with the site selection. It's been interesting to read in recent months of all the interest that's generated throughout the state in cities, towns, locales, that are going all-out to try to get a campus located in their vicinity. Then to look ahead I don't know how many years, these same cities will be complaining about all the problems caused by the University. Take the continuing problems that Berkeley, Los Angeles, and San Diego have with the communities in which they're located. Of course, that's a span of many years. It does mean an awful lot to a community, especially a small one, to have the influx of people and payrolls that come with a new campus, and what it means to the local economy. There's just no doubt about that.

But growth always requires expenditures by the town or city before the receipts start coming in. And it's that gap that drives the politicians to do rather unexpected things, and to make demands and express unhappiness. It will happen no matter where they locate the new campuses. The same politicians who did the wooing to get them there in the first place--if they've been re-elected a few times--will be the same ones that are on the stump demanding the University do this or that to help the community with its fiscal problems. So that is predictable. It will happen.

I think the Regents have narrowed the tenth campus down to somewhere in the Central Valley, and that's a logical place geographically, for growth and a lot of other factors. Just where in the Central Valley, I don't know. I don't think it's been announced. In making the selection, they have to take into account a lot of different factors, one of which is the availability of basic utilities. Water, power, waste disposal, roads, and all of those things. So, soon after a final selection is made, then you get down to the planning process.

The first part of any planning process for a college campus is the academic plan. What will be started initially, and what it will eventually grow into. Not in detail, but the general academic plan, certainly whether it's going to have engineering and sciences, which eventually have a big research complex of complicated buildings. So you have to know the academic program, or the start-up program, the anticipated growth in students, faculty, and administration. When you start interpreting and converting this academic program into a physical program, you right away run into the grouping of buildings for like and compatible purposes, what utilities are going to be needed, from where, and in what amounts, by increments.

You have to build utility systems in incremental amounts that all match together, since you can't install pipelines or electrical capacities initially to take care of a campus thirty, forty, fifty years hence. You have to do it incrementally, but hopefully in such a manner that it can be expanded, or capacities can be increased without an awful lot of expense or duplication. So you have to create a physical layout to accommodate the academic program, the administration, and all the services on some kind of a zone or sector basis, so that the buildings and facilities in those zones that will accommodate growth in specific parts of the academic program can be carried on as a family that has some resemblance of relationship in function and in looks. So that's a real challenge.

In my experience, one of the most difficult things is getting the academicians and the administrators in the academic community to think far enough ahead, and in fact, commit themselves far enough ahead initially to produce a good, viable, and workable program. This doesn't mean that once you adopt a program that that's it from now on, because I think that if anything, we've learned in planning is that to assume the initial plan is so good it will be a static one just isn't true. In fact, they're almost contradictory terms. But the people doing the planning get too uptight thinking that the decision they make now can't be changed later. What you have to do hopefully is provide enough flexibility in the planning to accommodate these changes that you know are going to happen. At least you hope that changes won't be made before you can get the first building built. But it happens. So it's a challenge.

There's a wealth of experience to suggest the dos and don'ts. For whatever reason, whether it's planning a campus or something in our community or for our government, we don't seem to learn too much from history. We seldom plan for logical expansion. Our vision is too limited or short-sighted--probably due to fiscal constraints. It's human nature.

So that's when we get to the Santa Cruz campus. That's going through an evolution now, starting from an almost totally independent series of colleges, as compared with a highly centralized academic program. I understand there is now quite a strong move toward a lot more centralization of the campus, especially the academic program, rather than having it all, or pretty much all, conducted within the colleges. At least that was as I read the recent report last week from the Regents' meeting in appointing the interim Chancellor. One of his main tasks seems to be to try to move the campus toward centralization. I hadn't better say any more on the subject.

## Campus Consulting Architect##

LaBerge: So we're going to continue and talk about what consulting architects do, and who they were.

Morgan: I think we've discussed in another session how the idea of campus consulting architects started on the Berkeley campus. Dean [William] Wurster was the dean of the College of Architecture, as it was called then. It's Environmental Design, now. He, along with campus architect Louis DeMonte and Regent McLaughlin, formed sort of a design review committee for the Berkeley campus. Just how Bill Wurster took on the title or became known as the campus consulting architect, I'm not quite sure. But anyway, it proved to be very worthwhile, especially after Clark Kerr became Chancellor.

Soon after I joined the University, and as we were decentralizing, one of the items in the outline of procedures by which we were going to control the--maybe not control as much as audit what was going on, and thus make it more palatable to the Regents in terms of delegation of authority--was to give some assurance that someone was taking a broad look architecturally, with all that was going on or proposed to be going on at each of the campuses. So we promoted the idea of having a consulting architect for each campus, somewhat in the same role, and with the same duties that Dean Wurster was providing for the Berkeley campus. This met with ready approval by the President and the Board of Regents.

So we formally established the position of a consulting architect for each campus. There were no specific rules laid down, but the general guideline was someone well respected in the profession, who had done noteworthy design on good projects, big projects, and who had the ability to work with other architects. One ground rule that was established in the beginning was that the consulting architect would not do what we called executive architectural work (actually design a building) on the campus where he was serving as consulting architect. However, the consulting architect could do executive work on other campuses. Later an exception was made to this, especially on the new campuses, that would allow the consulting architect to be the executive architect on a key, major new building that would set the tone, or style, or whatever you want to call it on the campus where he was also the consulting architect. Thus it would be a general guide for future executive architects in designing other buildings.

We purposely did not want all buildings on the campus to look alike, or in other words, to create a monotone or a monotonous view. There are certain design elements that could be incorporated into the exterior of buildings that would, in effect, tie them together in some way, at least so they looked like they belonged to the same family instead of distant or unknown relatives. There was no problem with this on the Berkeley campus, since there was nothing that matched up anyway. [chuckles]

But on the newer campuses it began to show up, especially on the Santa Barbara campus with the strong design features, as well as the strong hand and salesmanship, of Chuck Luckman. He was a good architect and a great salesman. He had come from Lever Brothers Soap Company. As an aside, he was sometimes referred to, kiddingly, as the "great soap salesman." He was a marvel at selling his design or most anything else to anybody. He was good. Well, so much for the aside.

LaBerge: Well, you were involved with the expansion of Santa Barbara.

Morgan: Oh, yes. Santa Barbara campus had its origins in an entirely different location than where it now is located. In its earlier location it was a part of the state college system located in Santa Barbara. There was an old marine base out in Goleta that the University acquired after the war [World War II]. It had many buildings on it which had been used by the marines. The land and buildings were declared surplus by the federal government and acquired by the University. So the Regents decided that would be the new location of the Santa Barbara campus.

I'm not sure just what year they physically moved out to the Goleta campus. It retained the name of Santa Barbara although located in Goleta. In 1960 when I came, there were one or two new buildings already at the new site, designed by Luckman. But for all practical purposes, it was the same as a new campus, building around and with the military buildings already there.

Let's make a list, campus by campus, of consulting architects, starting in the north.

The Davis campus--a San Francisco architect by the name of Gardner Daley, was selected and appointed as the campus consulting architect. He continued until his death. I'm not sure when he died; also, whether or not he was ever replaced, I don't know. I don't think any of the campuses now have what is technically known or called a consulting architect.

In Berkeley, as already indicated, Dean Wurster became officially designated as the campus consulting architect.

At San Francisco Medical Center, John Lyon Reid was appointed. Some years later he died, and a member of his firm whose name I've forgotten became his successor.

At Santa Cruz, which was an entirely new campus, John Carl Warnecke did the layout of the master plan for the campus, but he was not appointed as the campus consulting architect. Rather, Ernest Kump was named to this position. He did an excellent job working with the consulting landscape architect, Tom Church, in siting the colleges and buildings while preserving the natural beauty of that campus.

At Santa Barbara, as already indicated, Charles Luckman did the initial buildings in the new location. He was from Los Angeles and was a natural to be appointed as the consulting architect.

Welton Beckett was a well-known Los Angeles architect who had done considerable work on the L.A. campus. He was a natural, and well liked. So he was appointed as the campus consulting architect. He later died, and I don't know who took his place or whether they have one now.

At Riverside, George Vernon Russell, a Los Angeles architect, was appointed as the first--well, all of these were firsts--as campus consulting architect. They don't have one now. He was really a strong character and left his mark on some key buildings there.

At Irvine, William L. (Bill) Perreira was the original consulting architect. Bill did the original longrange plan for the campus. He also did the first building. He continued in the role of consulting architect until his death. Incidentally, I don't know if this indicates we were hard on consulting architects and killed them all off. I hope not!

LaBerge: I don't know. Or, if they stayed at their job for a long time.

Morgan: At San Diego, a Los Angeles architect by the name of Robert Alexander was the first campus consulting architect. He did not die in office, and was later, not too much later, replaced by another Los Angeles architect by the name of Quincy Jones. Bob didn't work out quite as well as we had hoped, not only in the minds of the administration, but some of the Regents. So it was by mutual consent and agreement that we changed campus consulting architects. That's when Quincy Jones was appointed.

But Bob went on to do some other design work on that campus and did very well. He just didn't work out as a campus consulting architect. It takes special personalities to function in that position.

So now, that's the list of the first cadre or rather the first total list of campus consulting architects, with the one change at San Diego as noted. I think that all the rest of them continued until they died or the position was discontinued.

LaBerge: Why do you think there aren't consulting architects anymore?

Morgan: The primary reason, I'm sure, is that the amount of construction on each campus diminished to practically nothing. Some of the consulting architects said that they would rather be free to do executive architectural work on their campus than to continue as the consulting architect. But the primary reason was the greatly reduced building program. During Governor Reagan's years, the amount of money for construction was greatly reduced for whatever reason, economic or otherwise. It really didn't pick up again until, oh, about ten years ago, I'd say, about 1980 or somewhere in there. Maybe a little before. So the building program was running out of steam, not out of the lack of need for new buildings, but the lack of finances from the state and other sources to build the buildings.

That's about all on the campus consulting architects. They provided--in my view--a great service. They functioned very well. Got in a lot of arguments sometimes, about what they wanted and what the executive architect wanted. We usually worked out some compromise. But we did break up the monotony of things.

LaBerge: Were you responsible for hiring all of them? Or was the University architect in charge of that?

Morgan: Well, the names I've given you were all hired while I was a vice president. My office participated in the selection of all of them, and my office processed the approvals all the way through the Regents. I personally didn't select them, no. But, it was all part of an ongoing process. The Chancellor, my office (either myself or Bob Evans), or the campus architect would do some checking and/or inquiring before any formal invitation was made. If a Regent or Regents were interested in that particular campus or played a big role in that campus, we would check with him beforehand to see if we were going to run into any problems.

One way to make sure of getting approval, is to get your votes lined up before you ask for approval. That's an old political standby. I remember having several sessions with Regent Haldemann, Bob Haldemann, of Nixon-era fame, going to see him on several occasions about approvals. He was a good Regent who was interested in the building program and spoke out. He was a very fair Regent, but didn't mind speaking his mind on the subject that was before the committee. So I had several sessions with Bob Haldemann.

LaBerge: Was this before he worked in Washington? Or after?

Morgan: Oh, before, yes. Not too long before. Also, I worked very closely with Regent [Dorothy] Chandler, Regent [Ed] Pauley, Regent [Ed] Carter, Regent [Philip] Boyd--the ones that were most involved on the Grounds and Buildings Committee. Because, as I think I stated earlier, President Kerr delegated very well and, in my case, delegated me to work with the Grounds and Buildings Committee to do whatever was necessary to get the job done. It didn't take long to figure out that it was necessary to keep the Regents that you worked with all the time well informed and up with you on what you were up to.

But if you didn't perform and the Regents raised a fuss, Clark Kerr was a quick one to raise a fuss also. And that's only natural, as it should be.

So it was a very good experience, and I'm sure the campuses even now--I was going to say; more recently and even now--they call in consultants to help them on big or complex projects. But it's not on an approved, continuing basis such as with a campus consulting architect.

Following ceremony in which Elmo Morgan was sworn in as Deputy Assistant Secretary of the Interior: Stuart Udall, Frances Morgan, John Macy, Elmo Morgan, Tony Morgan, Kent Morgan, Lynne Morgan (Mrs. Kent Morgan).

## VIII CONSULTING WORK ABROAD FOR UC AND AID

### Leave of Absence for Department of Interior, 1967##

Morgan: As mentioned earlier, a fellow I worked with at Los Alamos during the construction period was an engineer and also a G.I. up there. His name was Frank Diluzio. Later, he left Los Alamos and became the administrative assistant to Senator Clinton P. Anderson, who was the senior senator from New Mexico, and a very influential senator. He was instrumental in introducing and passing the legislation that resulted in what is now water quality control, or the Clean Water Act. It was then called Water Pollution Control, but fortunately, they changed it later to make it a positive thing instead of a negative.

Stewart Udall was secretary of interior under President [Lyndon B.] Johnson, and he [Udall] needed an assistant secretary to head up this newly-created department, or division within the Department of Interior. Since Frank Diluzio was the chief legislative aide in getting all this legislation passed, Secretary Udall requested of Clinton Anderson the services of Frank Diluzio to head up the new program. Frank Diluzio, in turn, called me to come to Washington, D.C. and be his deputy. So the Regents granted me a two-year leave of absence to go back to Washington as deputy assistant secretary of interior.

LaBerge: And that was 1967? Is that right?

### Water for Peace

Morgan: Yes. I went back in July '67. Then the next year--I was still back there on that original assignment--President Johnson was creating all kinds of peace efforts, Water for Peace, Food for Peace, etc. The new program called Water For Peace was to help develop water supplies in largely Third World Countries, but anywhere in the world, to help produce food and thus promote peace. Well, water development should rightly belong to the Department of Interior, because it was the main federal agency dealing with water development and control. But since it was international, it was actually assigned to the State Department. They were assigned the responsibility to take the lead in the Water for Peace Program but with instructions from the White House for a strong tie to the Department of Interior.

So the State Department set up the director of the Water for Peace Program. The deputy director of the program was to be named by the Department of Interior. The President named a fellow by the name of Dean F. Peterson to be the director of the program. He had been serving on the President's scientific advisory council and was one of my classmates at Utah State University.

LaBerge: I remember you talking about him.

Morgan: So Dean Peterson asked Stewart Udall to name me as deputy director of the Water for Peace program. I was to spend half-time in the State Department, and half-time in the Department of Interior. And that leads into a lot of other things. I don't know, maybe it's just as well to talk about them now, or do you want to do it later?

LaBerge: Well, why don't we just talk about them right now? What that entailed; I know it entailed a lot of travel.

Morgan: It did. It was a program almost without definition, but through the United Nations, there were some committees that were already doing work in some areas of interest to us, so we decided to affiliate with their organization internationally. There was one organization, oh, I've forgotten the name of it now, but it--.

LaBerge: AID [Agency for International Development]?

Morgan: No. This one was headquartered in Thailand by the name of SEATO [Southeast Asia Treaty Organization], as I recall. By corresponding directly with them we learned about their ongoing work and future plans. The Bureau of Reclamation, which is part of the Department of Interior, was doing the design of big dams on the Mekong River, and other rivers. The Bureau of Reclamation was great on building the dams and in distributing water in canals. But we soon discovered that the people (the farmers) who were going to benefit from the water didn't even know how to get the water out of the canals and onto their land to raise the crops. It's hard to believe but they knew nothing about valves, pipelines, headgates, or ditches, or how to apply the water to their land.

So it became a grass roots, very primitive grass roots, problem of teaching the farmers what irrigation was all about and how to get water onto their land and how to handle it. We didn't do this ourselves, but we had to set up some sort of an organization to begin teaching the natives of the land and the country where these projects were to be located. These were some of the problems we were handling over in the State Department.

The main problem over in the Interior Department--water pollution control--was dealing with the tremendous pollution problems within the United States, caused largely by the discharge of wastes in lakes and streams, that were killing the fish and making the water unusable for any human consumption or any wildlife. Some of our Great Lakes and some of the rivers were literally "dead" lakes and rivers; they wouldn't support any life.

There was plenty of authority in the new legislation, but you had to figure out what to do to clean up the wastes and then convince or compel industry to clean them up. So that was our job over in the Department of Interior; it was a vast undertaking. Still is, but they're making headway. Even the farmers wouldn't believe they were part of the pollution problem in that they would irrigate, over-irrigate, much of the land. This flooding of the land would flush their land of the undesirable salts and minerals which would flow into streams and on down the waterways where they would become so overloaded with these undesirable chemicals--salts, primarily--that they could no longer be used by downstream water users.

The Colorado River is a prime example of this. It originates up in Colorado and flows through parts of Utah, Arizona, and Nevada, and by the time it gets down to the Imperial Valley and especially by the time it gets down to Mexico, it's so loaded with undesirable salts that it ruins the crops. It became an international problem. So we had to work in cleaning that up and working out treaties with Mexico. The upstream water users, they never thought of it, but they were contributing to the pollution for downstream users.

So it was a very interesting assignment, a highly political one. We had to work with the Congress on appropriations and permissions for corrective action under the law. They would pass laws and they'd have to be interpreted. We'd have to go up and defend them and report progress. So it was a quite interesting assignment. I moved my family back there, of course, and we lived in an apartment in the District.

LaBerge: In Washington, D.C.?

Morgan: In Washington, D.C. And it was quite interesting to see--. Well, Washington, D.C. is an interesting city, and all of its environs. But, administratively, it was interesting to see how the bureaucracy works inside the beltway as we all know it.

## Living and Working in Washington, D.C., 1967-68##

LaBerge: Okay, you were just saying it was a wonder anything ever got done in Washington, D.C?

Morgan: You have an idea for a program and write it up. Then the number of agencies that you had to clear with before you could issue it was staggering. And the amount of time it took to get anything through, let's say within the Department of Interior, and then involve the State Department to get through the bureaucracy there, and then the Bureau of Budget. You can easily use up a year's time in trying to coordinate a single program and get it to where you can begin using it. So that was a good insight into how the Washington bureaucracy works or doesn't work. And that was quite a lesson.

My two-year leave was nearing its end and I had to decide whether to continue with my assignments in Washington, which I had been asked to consider, or whether to return to the University of California. By this time, Charles J. (Charlie) Hitch had been named President and he invited me to be a part of his staff in my old position of vice president.

LaBerge: That would be '68?

Morgan: Yes, December, 1968.

## Travels for Water for Peace

LaBerge: Before we leave Washington, D.C., what places did you travel to on this whole water issue?

Morgan: Oh, largely to India, Thailand, Hong Kong, Saudi Arabia, Egypt, and Israel. I went to Pakistan once, but that was sort of passing through, en route back to Berkeley.

LaBerge: All those countries were recipients of our Water for Peace aid?

Morgan: Well, either that or from AID. Also we were building a desalting plant in Saudi Arabia. The Saudi Arabian government, after their oil wells started producing and they started their expansion, needed a desalting plant to provide potable water. So they worked out an agreement, government to government; the State Department was involved in this. But they asked our government to handle the design and construction of the desalting plant. That fell to the Department of Interior to do it, and I was the one assigned to coordinate it. We selected an engineering firm to design the plant and I was the contract administrator. I went to Saudi Arabia two or three times to help get the construction work started and negotiate some contracts. That was a lesson in itself on learning how those people conduct business. [chuckles]

LaBerge: Were the workers all Saudi Arabians or Americans?

Morgan: Oh, no. Very few of them were. The contractor who got the major construction contract was from Japan, and part of it was German. The design work was done mostly by a United States firm. A lot of the workers were Koreans and Japanese. I'm not sure the Saudis contributed much in the way of workers. They are not real hard workers. They are as much "mañana" or more so than the Spanish or the Mexicans.

One of the king's favorite sons was in charge of the desalting plant. He was a very nice person. I've forgotten his name now, but he would come by and invite us all to lunch or tea over at his palace. The lunch would be about noontime, but the tea drinking and just sitting around would last all afternoon. If you raised some problem you wanted to get settled, he'd say, "Well, I'll take care of it tomorrow." He'd arrange for a meeting. Whether or not he would show up you'd never know; he might show up today, tomorrow, or the next day. All you do is sit and wait.

So I'm surprised we ever got the plant built. But we did get it built and it started producing good water, primarily for human consumption. It's too expensive to desalt water for irrigation. You have to have a big power source to do it. We became very well acquainted with the ambassador there, stayed at his house.

LaBerge: Who was the ambassador then?

Morgan: Herman Eilts. Later, my wife went with me to Saudi Arabia and then on to Thailand to one of these conferences--at my expense, I might add. The government didn't pay her way; they paid mine.

This was a joint trip, one for the desalting plant in Saudi Arabia and the other was to attend some more Water for Peace conferences in Thailand. Both of us were guests in the home of the ambassador in Saudi Arabia, and the ambassador's wife would take my wife shopping at the souks. Of course, women are not allowed to drive in Saudi Arabia, but the ambassador had a chauffeur and a big black car, and off to the souks they would go while I was off working at the desalting plant. So it was very enjoyable for both of us. [chuckles] On that trip I also had work in India and Thailand.

LaBerge: What did you do there? Was that also desalinization?

Morgan: No, it was for Water for Peace. We had some meetings in New Delhi. They gave us a couple of days off, so we went up to Taj Mahal, which was beautiful and most interesting. Then to Thailand, and a stop over in Hong Kong. So it turned out to be a very interesting assignment. All I had to do was to keep track of which agency I was working for on which day or days. [chuckles]

When all those trips were over with, it was a good time to break my service with the federal government. There were some changing programs; some that had been initiated were finishing up. So I decided to return to the University of California with the blessings of those I was working for in Washington. Maybe it was good riddance; I don't know, they didn't tell me so, but they thanked me for my good service and wished me well in going back fulltime to the University of California officially the first of January, 1969.

LaBerge: So were you doing the same job again? Vice president of physical planning and construction?

Morgan: Yes, I resumed my old duties. But before getting back into my work at the University at California, perhaps it would be best to do a section on my personal consulting at universities abroad since a major part of it was in conjunction with the trips for Water for Peace and AID programs.

## Haile Selassie University, Ethiopia, 1962

LaBerge: Yes, so let's talk about your own consulting work abroad at various times in your life.

Morgan: How all of these requests and assignments came about, I can only conjecture. But nearly all of them were under the auspices of or

Richard Evans (left) and Elmo Morgan presenting guitar to Haile Selassie, Ethiopia, 1967

at the invitation of the Agency for International Development, which was part of the State Department. One part of their responsibility was our federal government's commitment and financial assistance to education abroad, whether by universities incorporated and based in the United States or elsewhere. First, I'll go through all of the ones that were under the auspices of the Agency for International Development.

The first assignment was to go to Ethiopia, to help establish what was to be known as the Haile Selassie University. How and why the emperor decided he wanted a university, I don't know. It's easy to conjecture why he'd want it named after him. [chuckles] It was in 1962, as I recall. I received the invitation through a former associate at the University of Utah, who had been selected by AID to go to Ethiopia and set up this university. Again, his selection and how our federal government got into it, I don't know. But I received the invitation through AID.

LaBerge: Now, who was your friend in Utah?

Morgan: My friend's name was Harold Bentley. He had been over there before, under AID auspices, for whatever reason, I don't know. But he was actually in Ethiopia when my invitation came from AID. I was told that one of the things he wanted to do initially and just as soon as possible was to establish electronic means of communication with a military base in Asmara down on the seacoast. So I was asked to bring with me an electronics engineer.

It turns out another acquaintance of mine at the University of Utah was a good electronics engineer, by the name of Richard Evans. They booked passage for both of us to go together, which we did. He certainly didn't invent the electrical guitar, but he had a lot to do with perfecting it and was an expert in that, too. So he decided that it would be nice to take an electrical guitar along, to give to the emperor. Which he did. Jumping ahead a little bit, we have a picture, which I'll bring to you. The picture shows the emperor, myself, and Dick, with Dick handing the emperor the electric guitar.

Of course, the preparation to go took weeks, and our departure date was established well in advance. Just before we were to leave, there'd been an attempted coup in Addis Ababa, the Ethiopian capital. The emperor was away somewhere in one of the other African countries. While he was out of the country, the ruling general in his security forces, along with a lot of other help, some help from one of the emperor's sons, attempted a coup.

So there was a little concern that our departure might be delayed. But the coup was put down, so we went ahead as planned. The coup had been put down by the time we arrived. I remember distinctly touring the emperor's palace, where the coup took place. The bullet holes were still on the ceiling and walls, and the bloodstains were still on the carpets. That made quite an impression on me.

LaBerge: Oh, I bet. You didn't take your family with you?

Morgan: Oh, no.

LaBerge: I bet they were nervous that you even went.

Morgan: Well, the coup was over before we left. But it turned out that where the attempted coup took place was the emperor's palace that was to become the university.

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LaBerge: Okay, one of the palaces he donated--.

Morgan: Yes, one of his palaces, located there in the city of Addis Ababa, he donated to become his future university. It was--well, I don't know how many acres. It was beautifully landscaped. We knew before but were told after arrival that one of his other names was the "Lion of Judah." At the entrance to the gates, life-sized statues of lions were part of the decorations. But it wasn't until we were walking around the grounds of this palace, getting a feel of what the campus would be like, that we came face to face with one of these lions, real live lions! They were just roaming the grounds. It was quite a shock, to come around a bush and be face to face with a real, life-size lion. They were tame, but still, it was quite a shock.

Anyway, we proceeded to decide what buildings could be used for what. First of all, we had to try and find out from someone what they intended to teach at the proposed university. The emperor's personal secretary, a fellow by the name of Ato Wubishet, was assigned to work with us personally, and to get any of the information or answers we needed. When I say "we," it's primarily Harold Bentley, Dick Evans, myself. They had a local lawyer whose name I've forgotten, who also worked with us, because one of the first things they wanted to do was set up a law school, to teach law. We soon learned that their law is quite different from our law. Just in the course of conversation we learned that. We tried to do things within their law, and certainly not to get involved with the law.

We sized up the buildings that might be suitable for classrooms, faculty, offices, administrative offices, and someplace for workmen to do maintenance work--minimal shop space. This became a real problem. Maintenance as we know it is unheard of. Believe it or not, we were able to find only one man in all of Addis Ababa who could be called an electrician. He was actually a leftover from the Italian invasion of Ethiopia some years before, and he just stayed on.

We received quite a bit of help from the Swedish mission in Addis Ababa that had been established to help--in a wholly different context--to help educate and train Ethiopians to help themselves, whether it's in crafts or other skills--mostly in crafts; also, engineering in the most primitive sense of how to do things. An engineer by the name of Sven Nordland was the head of that mission for the Swedish government. We became very good friends and my family and I visited him and his family later in Sweden in 1965. But he was a good source of information, as to what was available and how to get to it.

I was there a month. I spent a good bit of that time trying to help figure out how the money from AID would flow to and be accounted for by the university. There literally was no accounting capability or facility anywhere, except one man in the AID mission. He and I--his name I've forgotten--set up the most simple accounting system you could ever imagine to account for what came in and what went out. I must say, this is where my two courses in accounting as an undergraduate at Utah State University came in to much more benefit than any engineering course I ever took.

Well, I guess it's all right to say it, but it took me several days to collect all of the receipts for the expenses of Harold Bentley and his wife, who accompanied him over there. I had all of the expenditures that he had accumulated up to then, and which were, for the most part, eligible for reimbursement by our federal government. To collect these and get enough information as to what they represented, and in such shape that they would be approved by the AID mission and he could recapture several thousand dollars, took a lot of my time. Harold Bentley was a good academician and a good promoter, but not too good on the business end of things. I've known quite a few academicians like that.

LaBerge: That's right. That's why they need vice presidents of business!

Morgan: But anyway, we did write up a program, and what it meant in the way of space and hours of instruction. In the meantime, what had to be done to some of the buildings and how to get it done was something else. I don't think too much of it ever got done. The university as a university made no great mark, and just how far it went before--. They had additional internal conflicts and eventually, the emperor was overthrown and had to leave. So far as I know, nothing that you could call a real university ever developed.

While I was working on the business end of things and getting the crudest--that's a good word--and the most rudimentary business operations set up, my companion, Dick Evans, was busy seeing about getting equipment installed that would link the emperor, by radio contact at least, with the military base in Asmara. In fact, Dick made one trip down there, to check to see what they had available and so forth. I was mighty glad to see him survive and come back. He was a good traveling companion.

The emperor's secretary, Ato Wubishet, got us an audience with the emperor so we could present the guitar, and for him to learn what we'd been doing. He seemed to be generally interested, and it was a most interesting meeting. We were briefed beforehand on what to do and not to do. He understood English and spoke a little, but his secretary was the interpreter. We were quite sure that he was understanding what we were saying, but he chose to have it interpreted to him in his native language so he would have more time to reflect on the answer. So, he would give the answers to our questions in his language that would come back to us through the interpreter. We had a very pleasant visit.

He was a man of small stature, bright blue piercing eyes, a good smile, a healthy handshake. We made the presentation of the electrical guitar, Dick strummed a few tunes and the emperor smiled and graciously accepted the guitar. But he didn't try to play it. We had pictures taken; the secretary had arranged for a photographer to be there. We had several pictures taken with the emperor. The secretary signaled to us that our meeting was over, and we backed out. You didn't turn around and walk out; you never turn your back on the emperor. So we bowed and backed out, and hoped we would hit the doorway. [chuckles] Which we did, and the door closed, and then we were normal again. But it was a real experience to have an audience with the emperor of Ethiopia.

They were very gracious to us while we were in Ethiopia, took us out in the bush, as they call it--that's out in the countryside. Visited homes in which the natives lived, which are called toukels. We went to the rim of a canyon that would almost dwarf Grand Canyon. Looked down into it; it wasn't as precipitous, but--. Their means of communication were by runners, by voice and by smoke signal. We saw some of them running; they would run for miles and days. They would exchange messages as far as their voice could be heard. Then they would use smoke signals. We even went to a native picnic, which was interesting. We were toured around Addis Ababa, the city, to some of the souks.

We each bought souvenirs. One of the big souvenirs that have now been banned, you can't even get them out of the country, are monkey-skin rugs, made from black and white native monkeys. It takes about six or seven of the pelts to make one rug. Very beautiful. I brought two home. I gave one to our good friend Bill Wurster, and finally gave the other one to the anthropology museum over here on the Berkeley campus.

LaBerge: Oh, Lowie?

Morgan: Yes, Lowie Museum. That's where it now is, the monkey rug.

LaBerge: Oh, I'll go over and look for it.

Morgan: I don't know; they might have it hidden or stored, I don't know. But it's a beautiful black and white arranged in a radial fashion. But, those two rugs were shipped home by AID on an APO number. By the time they arrived at our home, they had been in a closed box for weeks. When we opened the box we couldn't even get close to them. The hides were not that well cured. So we didn't even try to hang them around in our home for a month or more while they aired out. One other thing the emperor presented us with was a gold medallion that had been used on some centennial--I don't know which one. He presented each of us with this gold medallion. It looks like gold; I never had it assayed to make sure.

LaBerge: You brought that to show me, one time.

Morgan: Well, so much for Ethiopia.

## Campus Planning at Pierce College, Athens, 1964-1965

Morgan: The next assignment was in 1964 at Pierce College, in Athens, Greece. Again, this was under auspices of AID. This was a small college that had been started in 1923 in Turkey, church-related, and moved to Greece in about 1928. The campus was out near the commercial airport in Athens. After the war (World War II), our government was interested in helping the Greek government greatly enlarge the airport, and extend the runways so they could take the new jets. Part of the expansion of the Athens airport was to relocate Pierce College, which had a nice little campus there. So, it meant finding a new location and relocating this college.

Through my acquaintanceship with the AID officials from the Haile Selassie assignment, they knew of my experience of campus planning at Utah and at the University of California. So I was invited to go to Greece to help on the relocation and the planning of the new campus. This was in June, 1964. The new campus they had essentially selected. I really didn't have a part in selecting the new site. They did ask me to go visit the new site, to see how well it would accommodate what they had in mind. It was some distance, I think about ten, fifteen miles--they express it in kilometers--to the north of Athens, a little town called Aghia Paraskevi which turned out to be a delightful little village.

So then I met with the college officials. The college president was a person by the name of Margaret Stewart. They were most hospitable and courteous and helpful. It was the usual campus planning procedure, sitting down with them to decide what they had ongoing in the way of curriculum and what they intended to expand into. You assumed, of course, that whatever classes they were teaching they would want to continue and expand, as well as add new academic courses. So we spent a lot of time writing these down in a formal plan.

They already had selected a Greek architect to do the architectural work. They had on the staff of the college, a young and bright engineer who was a volunteer in the church; he was there just as a service to his church. I've forgotten his name, but he spoke very good Greek and, of course, he was very fluent in English. He was an English person from up in the state of Washington or Oregon, somewhere. So he was my principal contact, and we worked closely together in the planning.

The architect they selected was a Greek architect, internationally known. We met with him a time or two, but he assigned someone from his office to work in more detail with us. The campus became somewhat famous architecturally by using the name of this internationally known architect. There were a few stories to tell about doing work in Greece. It was all Greek to me. [chuckles]

[Interview 9: May 29, 1991]##

LaBerge: Well, when we finished last time, we were in the middle of talking about your work at Pierce College in Athens. So why don't we finish up on that?

Morgan: All right. Some of this may duplicate, since I'm not too sure where we ended. But my assignment was to help them plan the new campus which was in Aghia Paraskevi. We began on the layout of some of the first buildings that were to be built there, in order to move the school from the airport out to its new location as soon as possible. At the time of my first visit and for some years thereafter, the school was for girls only, girls of Greek origin or descent. Later the school became coed.

By and large, the enrollment remained for Greek students, but the administration and the board of trustees encouraged some students from the States to come over and participate for intercultural reasons. During the summer months there were groups of students from the U.S., principally from the northeastern schools, who come there for special summer schools, and so far as I know, would receive credit at their own institutions. The college also opened up some facilities in downtown Athens, largely to teach business administration, secretarial, accounting, and other such courses related to the business community.

LaBerge: Now, did you have anything to do with setting up those classes? Because that was your background?

Morgan: No, well, we discussed it, but I didn't have anything to do with it. In later years, they actually built a building in downtown Athens. So they have a downtown campus now. I returned to Athens two or three times for follow-up work. After I completed all of my assignments as a consultant to AID, I was invited to become a member of the board of trustees of Pierce College, which I was pleased to accept. I continued that assignment for several years, and then after I fully retired, it was not convenient, and somewhat expensive for me to go to the meetings, which were always in Boston. Especially when I didn't have some way to charge my travel to somebody else. So they made me an honorary trustee, which gratuitous position I still enjoy. The college is incorporated in Boston, has a Boston office, and is accredited through the Northeast College Association in this country. That's about all for Pierce College.

## Boys' High School in Salonika

Morgan: AID also asked me to do some work at a boys' school in Thessaloniki, or the short name, Salonika. I visited that school on two occasions, at different times, to help them mostly get set up in their business operations, their maintenance, their schedules, and procedures. I was not involved in any new buildings up at that school. But it was a different experience, and a very interesting one. There was a nearby girls' school where they took us one evening to hear these young Greek girls sing some native songs. The music and their singing was beautiful--thrilling.

LaBerge: Was this a boys' high school? Or college?

Morgan: Well, it's called a "gymnasium." Yes, it's high school; that one was. Pierce is both. They have both a gymnasium and a college level. Even more recently, because of a big endowment from a Greek philanthropist residing in America by the name of Deree [looking at pamphlet], they actually divided it; the high school part retained the old name Pierce, and the college part of it was named Deree College. But it's administered under the same setup and by the same board of trustees. It was just renamed to recognize this large donation.

## Traveling with Family in Greece, 1965

Morgan: On a trip in 1965, I took my wife and two children to Greece. After completing my work at Pierce College, we hired a driver and a car from Pierce College to drive the whole family up to Salonika, where I worked for--as I remember--two or three days. Then rather than taking a direct route back to Athens, we took the back roads. Our driver was a Greek who spoke good English, which he learned by being a chauffeur to General [Dwight D.] Eisenhower during World War II. Of course, he spoke Greek. Sometime between when he was a driver for Eisenhower and when he went to work for Pierce College, he drove a tour bus all through Greece. So he was well acquainted with the back roads and the byroads, and all the people who would be congregated in the village squares to pass the time of day. He would wave to all of them and talk to them. He turned out to be an excellent tour guide. So we spent two or three days getting back to Athens, but saw a lot of Greece, which we enjoyed. We also took a tour of the Greek islands. I didn't make too much money being a consultant, but--.

LaBerge: But what a great opportunity for your family.

Morgan: It was. It was a good opportunity, and things were a lot cheaper then. My consulting income did not pay for all the trip, but it helped. During the 1965 trip, we were in Athens when [Andreas George] Papandreous, Sr. was the prime minister. The people were unhappy, they were trying to overthrow Papandreous. I went up to Salonika, one day ahead of my family. I'd flown up but my family was still in a hotel in downtown Athens. They got caught in the protests--well, I shouldn't say caught, but the police were using tear gas to disperse the protesting mobs of people gathering on the street where our hotel was located, and the tear gas floated on up through the air to the balconies and into some of the hotel rooms. They weren't tear-gassed, but they certainly felt it. So they were very pleased to be picked up the next morning by the Greek driver and get out of the capital. It was a very interesting experience.

## American University in Beirut: Expansion of Medical Center, 1966-1969

Morgan: The next was the American University in Beirut. I went over there initially in 1966 as part of an evaluation team that AID sent over. The chairman of the team was the president of the University of Wisconsin, Fred Harrington. Another member was the president of Amherst College. Another was a professor of education at American University in Washington, D.C. And I was the other representative to look after all things nonacademic. [chuckles]

LaBerge: They had plenty of academics to do the other things, right?

Morgan: Yes. They had a good medical school at AUB, and that's why an M.D. was asked to go. He was the president of Amherst--James Dixon. They had a fair research program, and I'm sure that's why they chose the chairman from the University of Wisconsin, for his experience in research, and education administration, of course. Here again, this is a school that was started by a religious group, but at the time of our visit had no affiliation. It had a good site, located in a beautiful spot in western Beirut, up on a bluff overlooking the Mediterranean [Sea]. It was an absolutely beautiful campus with a sweeping view.

The first assignment was to do an evaluation, both academically and business, since our government through AID had supported it quite generously in the past, and were proposing to increase the support somewhat for the future. The university wanted quite an expansion of their medical center, and that was one of the main items to be looked at, both in terms of academic requirements as well as buildings. On a subsequent trip I was there specifically on the expansion of the medical center--on design and construction procedures--and getting it organized and underway. It finally was completed, and was well known and well respected in the entire Mideast.

Later, it was handsomely supported by the rich sheiks from Saudi Arabia and other oil-rich countries. When any of the patients in those categories of people came for treatment, not only did they take what would be considered adequate rooms, but they would take the whole floor of the hospital for them and their retinue, their family. They'd just come live there. Of course, they'd pay for it. The construction and operation of the hospital had to take into account all these special things.

LaBerge: Well, were you involved in hiring workers, or supervising the work--?

Morgan: No, they had a resident engineer to supervise all the construction and everything. He was a retired air force colonel who had had a lot of experience in construction. I worked with him in helping get it started and later, checking with him. I also worked on some of the business operations, especially the plant maintenance. Another UC man, Loren Furtado, director of the UC budget, went over on assignment to help get their budget and accounting in better shape.

LaBerge: And again, was this for Lebanese students, as opposed to Americans?

Morgan: No, the enrollment was primarily Mideast, not just Lebanese. I don't know what percent were Lebanese, but it was largely Mideast countries. There were some American students there, but they were by far the minority. The last time I visited there in 1969, I was privileged again to take my wife with me. She had also been with me in 1968, but in 1969 there was some hostility going on over there--not the later, more serious encounters.

We were met at the airport by an embassy car, because no other cars were allowed on the roads. We had our schedules altered somewhat because of security, although we were never in danger, or anything like that. A party that we had organized and planned in honor of the president of the university and his wife, Dr. and Mrs. Samuel Kirkwood, was canceled. In turn, the Kirkwoods gave the party at their official residence, which was on campus. No activity was permitted off campus. This was maybe the forerunner of what developed into the tragedy in Beirut as we now know it, but we weren't in any danger then.

## Working near Damascus

Morgan: My first trip--well, my second one, too--but especially the first one on evaluation of the university--. We went into Bakaar Valley. It's almost to Damascus. It's an inland valley where the school of agriculture had a lot of its work and cultivated land for the agricultural experiments. We went up there, and were shown all around, what they were doing, and actually stayed up there at their dormitory one night. That was an interesting experience. As a side trip, we did go to Damascus. Enjoyed it, including the shopping which produced a lot of items that were very cheap but not too useful. And we still have most of them. Some of the things were much appreciated by our wives, at least my wife.

[tape pause]

LaBerge: This is a good anecdote.

Morgan: One trip to Damascus, Mrs. Kirkwood--that's the president's wife--went with us. By profession, she was a landscape architect, and had a healthy stride in walking. We'd all have to trot to keep up with her. But, she took me in and out of the souks, maybe one or two of the others went along. I had told her I was interested in buying some material to take home to my wife, who then did quite a bit of sewing. So off we went down one of the streets, and went in several stores. I ended up buying some gold brocade. I don't know how many yards, but she said it was enough to make a nice evening dress. It was beautiful, heavily laced with gold thread. That's still in a drawer at home. My wife said it was too fancy. [chuckles] What we'll ever do with it, I don't know. But it's beautiful, and I imagine the gold in it is itself worth quite a bit.

LaBerge: I bet it is.

Morgan: Damascus was a most interesting city, with the religious background at the time of Jesus. The street called "Strait" was especially interesting. We visited a lot of religious historical places, as well as doing a lot of shopping.

There was a place in Beirut that was a jewelry shop. It was not open to the public; you had to be introduced to the owner, which we were, through our connections with the university in Beirut. You go to this place--it was in a residential part of Beirut--and wait your turn to be admitted. The owner would admit only so many at any one time and then lock the door behind you. But once you were inside, he put before you cases and cases of gold jewelry worth thousands and thousands, and he didn't even check on you from time to time. You could put any item in your pocket if so disposed. We bought a lot of jewelry of various sorts--opal ring, gold bracelets, gold necklaces, and--[chuckles]. They have been quite useful--well used--and now some of them are so valuable, we have to keep them locked up, which is the case with any expensive jewelry these days. Well, so much for the American University of Beirut.

[Besides these two major assignments which involved two or more trips sponsored by AID--Pierce College in Greece and American University in Beirut--there were other assignments with multi sponsors: Water for Peace (State Department); desalting (Interior Department); Students Abroad (University of California); as well as AID. For example, an extended trip in October-November, 1968 included all of these sponsors. My problem was to keep track of which hat I was wearing each day. In 1969 after my return to UC, there was a shorter trip for AID only. I'll give only the highlights of those visits related to the things we have been talking about. They may not be in strict chronological order.][1]

## Schools in Israel

Morgan: The primary purpose of the trip was to identify, evaluate, and counsel with five Jewish schools, at the high school level, located in different areas in Israel. The orthodox Jews in New York at that time had, and presumably still do have, a powerful lobby in Congress. Unbeknownst to the administration--the AID administration in Washington, and certainly not at their request--the Congress tacked onto the appropriation bill an amendment that gave to these five Jewish schools a substantial amount of money, to be administered by AID.

I received a phone call from Washington, from the director of AID, to see how soon I could get on my way to Israel to try to even "find" [put "find" in quotes] these schools. AID had gone through the U.S. embassy in Tel Aviv. The embassy knew of three of them, but they didn't know at all about the other two. Fortunately, I was able to get away, and my assignment was first of all, to find the five schools. Then secondly, to see what they were doing, what kind of schools they were, and do a little evaluation of them.

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[1] Bracketed material was added by Mr. Morgan during editing.

LaBerge: So did you find five schools?

Morgan: Well, I found four of them. The embassy assigned me a person from the embassy, and a driver. We found four of them. The fifth one didn't even exist. There was one to be--

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LaBerge: The fifth wasn't even planned?

Morgan: It was just an idea in the head of a very strong supporter in New York, part of the New York lobby. He had a clear vision of what he wanted to see in the school, in a particular city in Israel. But by and large, these schools that existed were doing an excellent job in educating the young people. They had good plans of what they wanted to do. And I must admit, I was impressed with how far they stretched the dollar in taking care of their needs. AID had no choice; they just wanted to have a record that they at least found them and looked at them, and there was not a waste of money. Whether the new one ever got built or not, I don't know.

But I did go back a second time (1968), and this was the time my wife went with me. We were delayed getting out of Beirut because information had just been received at Beirut airport that there was a fire at the airport in Tel Aviv. It was not clear whether it was under enemy fire or there was an ordinary fire. So we were held up quite a while in Beirut. You couldn't go direct from a city open to Arabs such as Beirut to Tel Aviv. You had to go through--I call it a "cleansing city," which was Cyprus. [chuckles] So we were late getting to Cyprus, and by the time we landed there, the last plane for Tel Aviv was just about ready to take off, but they held it; they had two seats left. I remember it was on a Friday about midnight, because they don't fly on Saturday. They don't do anything on a Saturday; they close down completely.

So it was about two o'clock in the morning when we arrived in Tel Aviv, and there were these Jewish rabbis. This particular sect was the one that had the long beards, the very long beards, and the little caps, of course. There were maybe three or four of them; they'd been waiting all this time to welcome us. Which they did with open arms, including a big bouquet of roses for my wife. She was much impressed, and I was, too. And they really took good care of us.

So that was a follow-up visit to see if some of the things that were recommended earlier were actually being done. The embassy was involved in all of this; we were guests of the country, but our host was really the U.S. embassy there.

## Bangkok Trip: Water for Peace and UC Abroad

LaBerge: Okay. Now, I have in my notes something about a Bangkok meeting?

Morgan: Oh, that was with my other hat on [chuckles], when I was working with the--my assignment in Washington--the Department of Interior. As previously mentioned, I was codirector for the Water for Peace program established by President Johnson. The meeting in Bangkok was a part of the Water for Peace program. It was sponsored by the United Nations and the United States was an important participant. Delegates from a lot of different nations were meeting there to decide how best to develop water in some of those countries. The water was there, but there was little or no knowledge of how to store it and transport it and use it. And that was a real lesson in that they had not practiced, nor did they understand, the rudimentary principles of irrigation. Even how water flows in ditches or how you put dams in ditches or install valves and pipes or anything else. It was amazing, what we take for granted that they don't even have the slightest idea about.

The Bureau of Reclamation of our own government, and the corps of engineers, had built some dams on the rivers there and were proposing others. But that doesn't grow many crops, if there's no one there who understands how to get the water from those reservoirs and apply it to the land to where the crops were to be grown. So our discussions were mostly in the area of how to get the water to the land and how to apply it. I'm not sure that we made much progress. We did a lot of talking and had a very enjoyable time.

My wife went with me on that trip, and we toured on the little boats in the klongs of Bangkok--the rivers, waterways--which is their principal means of transportation. Again, we shopped in a lot of stores. It was a great experience.

Anyway, at the conclusion of the work in Bangkok we came home by way of Tokyo, where by prearrangement we visited the Christian university near Tokyo. This was one of the campuses of the Education Abroad program under the University of California. So we were met, and our host there was Dr. and Mrs. Elmer Brown, who was the director of the university's work at that university at that time. We attended some interesting functions at the university, and especially dinners, served Japanese-style, with Japanese students along with American students. Eating delicacies explained to us by our hosts were delightful until you learned that they were--some of them--raw fish of kinds that you didn't think too highly of, such as octopus and squid. But they were still delicious. [chuckles] It was very interesting. That was more of a visit than an assignment.

LaBerge: Did you do more with UC Education Abroad?

Morgan: Yes. At the beginning of the trip, we visited campuses in Madrid, Beirut, Jerusalem, and Tokyo.

LaBerge: Was that because you were vice president of business, or because you happened to be going there?

Morgan: Both. By the time we made the trip, I knew I would soon be returning to the University. My leave was about finished. My way was paid as a representative of the State Department in connection with the Water for Peace program and the work for AID. Also on the same trip, I went to Jidda [Saudi Arabia] to check on the desalting plant. After the meeting in Bangkok, it was just as easy and no more expensive to come back through the Orient, so we kept on going around the world. Before leaving on the trip, I had made a firm decision and given President Hitch a letter of acceptance to return to be a vice president at the University. So, since we were en route, they made arrangements for me to visit the UC campuses abroad which were roughly en route. There were certainly several that we did not visit, but at least those that were fairly accessible by the route we were going to take, we did visit and enjoyed each campus. So, all in all, we saw quite a bit of the world. That finishes up our world travels, getting from Washington, D.C. to Berkeley via Beirut and Hong Kong! But I must add that I paid for my wife's part of the trip.

## University of the West Indies for Ford Foundation, 1967-1968

Morgan: Another assignment was not for AID, but rather the Ford Foundation. They had been giving some support to the University of the West Indies and presumably the subject of continuing support plus probably some augmentation was up for discussion. Anyway, they wanted the university evaluated. The university was comprised of three campuses, the main one being in Jamaica. Another one was in Barbados and another in Trinidad.

I'm sure they had decided beforehand that they wanted someone from the English system, since the West Indies' education system was set up under English concepts. Someone from Canada, and someone from the United States. They chose as chairman of the three-man team a Sir Norman, who was an eminent British educator and who had established campuses in far-flung places in the British empire. Another fellow was from the University of Toronto. And I was chosen, again, mostly on business operations and planning for expansion. The three of us went down and spent a week or ten days visiting all three campuses. We made our report. Then, I was asked to go back--. Well, the three of us were asked to go back a second time. By this time I was at my job in Washington, D.C. with the Interior Department.

LaBerge: So, this is late sixties?

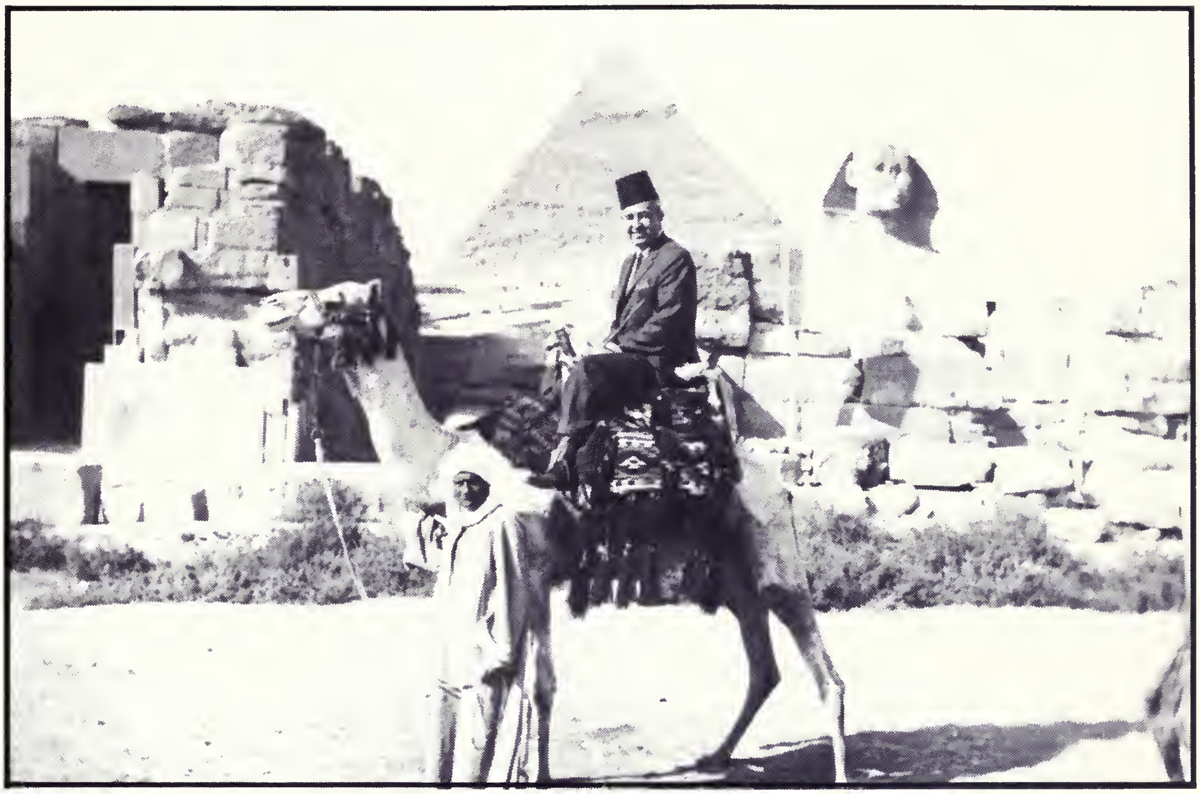
Morgan: Yes, 1968. The second time, I took my wife with me, and again, it was an enjoyable experience. Quite different from the Mideast. The second trip was a follow-up of the first one, to see how effectively the recommendations from the first trip were being implemented and utilized. Again, it was under the auspices of the Ford Foundation. The University had done quite well in implementing the earlier recommendations. The university still exists.

A highlight of the last trip--we were put up in Jamaica at a very nice hotel, out near the Jamaica campus, that had been a plantation at one time and later converted into a hotel used mostly by business people, not tourists. It was a very nice place and served excellent meals.

LaBerge: Any more work abroad?

## American University in Cairo, 1969

Morgan: [In 1969 after I had returned to the University of California, I was invited by AID to visit Beirut again and also to do some work in Cairo and Morocco, the last two being entirely new



Traveling in Egypt for AID, 1962

assignments. Again I was glad to be able to take my wife with me--at my expense I must add.][1]

Again, this is a university that had its origins with one of the churches, no longer church-affiliated, but supported largely by AID. It was a much smaller campus in part of downtown Cairo with quite different problems. They were not anticipating any new buildings, so my assignment was more to help them in their business operations and fiscal controls. AID was very much interested in seeing that they were getting their money's worth out of whatever they put into it. The college people were very kind and gracious, and provided good tours for us including the pyramids, and rides on the camels, and all the things that tourists do.

LaBerge: At all of these places, were the business officers natives of the country? Or were they Americans?

Morgan: Both. By and large, the Americans were in charge, but there were a lot of natives working for them. Some of them had pretty good experience, and some of them hadn't. So, not to give myself a pat on the back, I always felt I accomplished something by working with them, and showing them a few fundamentals that were so rudimentary, you'd have a hard time believing they didn't already know about them. But that's part of the other world.

LaBerge: And also the reason they wanted you to go there.

Morgan: That's right, to see what they were doing with the money AID was giving them. AID needed some assurance, when appearing before Congress at least, that the money was being reasonably well spent. And in my view, it was.

## Morocco, 1969

Morgan: Then, still under AID sponsorship, I went to Morocco to evaluate a possible new university there. The chairman of the board of Atlantic Richfield had been an admiral in our navy during the war, with some duty time in Morocco. He had considerable influence--maybe not a lot of influence, but he was certainly well known in Morocco. But he did have a fair amount of influence in Washington. Through a lobby group, he had the ear of enough congressmen to possibly establish an American University in Morocco.

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[1] Bracketed material was added by Mr. Morgan while editing his interview.

LaBerge: What was the name of this man?

Morgan: The man? I've forgotten. Mr. Anderson, I believe. So I was invited to go to Morocco to accompany a local sponsor and a local architect, who had been educated in the United States, to look over the proposed site. Before going, I was invited by AID officials in Washington to take with me, or to arrange to have an American architect go over, who also had experience in campus planning and who could serve as an architect for AID on a continuing basis if the project was approved. So I chose Louis DeMonte of the Berkeley campus, and he met us over there. They were really quite serious about going ahead with this new campus from scratch, so we spent two or three days going to the site and talking with the local architect. The site was a beautiful site overlooking the Mediterranean.

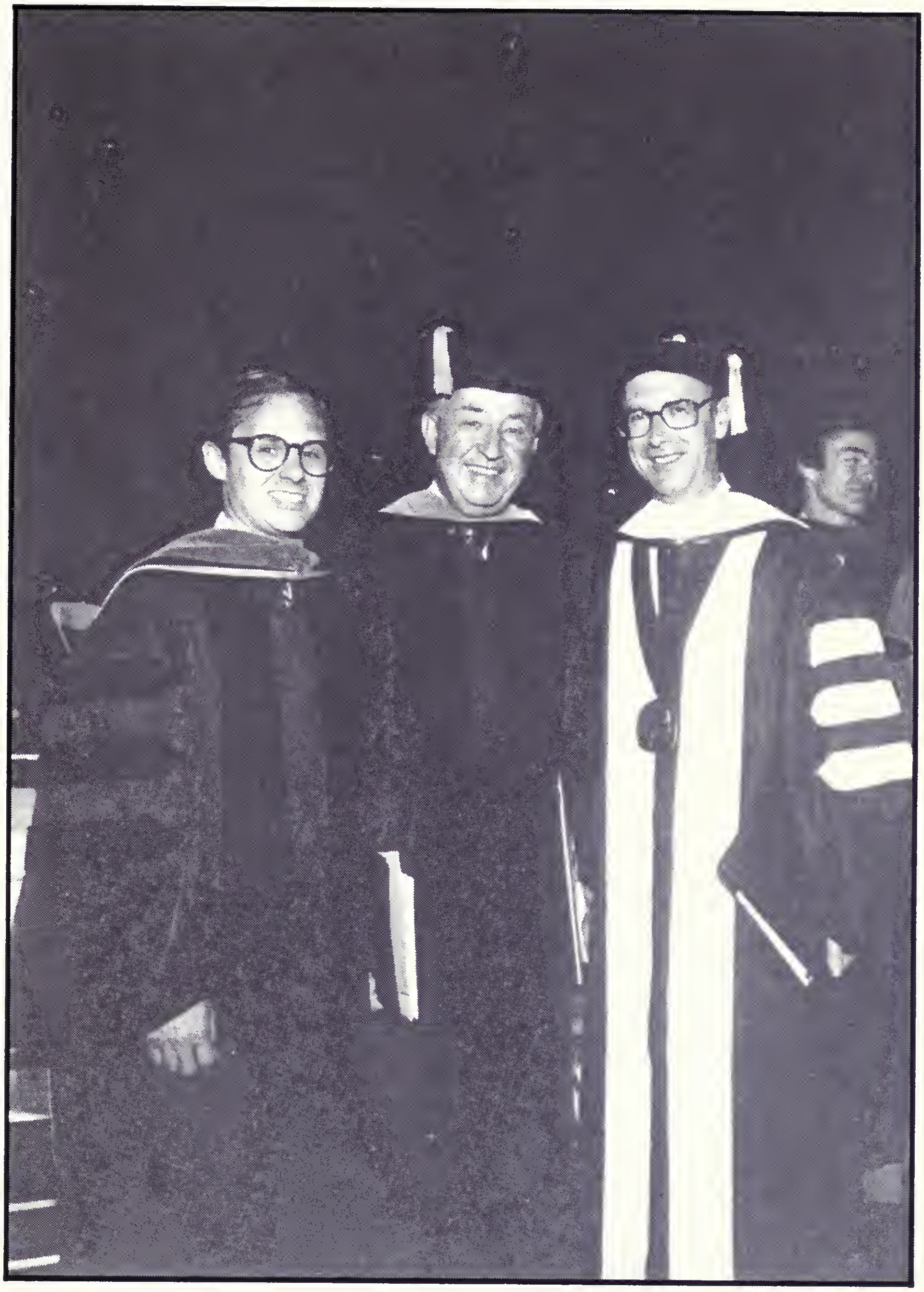
The king of Morocco was going to donate the land. So, we made several sketches what it might be. And again, our host was very--. We were there under the auspices of our embassy there, but our real host was this local architect, whose name I've forgotten. He got his degree at the University of Mississippi, where he met and married an American girl. They were living back there, and he had his own architectural practice. So our real host, this architect, invited us to his mother's place for dinner one night, which was served real Moroccan style, sitting around eating lamb and all the trimmings. We ate as all natives do, with our fingers, and enjoyed every bit of it. [chuckles]

We were accompanied on this particular visit to Morocco by a representative from AID in Washington. The money was sufficient to have that official along with us. His name was Scott Behoteguy. For whatever reasons I don't know, the campus for the university was never established nor built. But we had a good trip out of it. Again, we collected a lot more things from Morocco.

LaBerge: Okay, shall we go on to the new campuses? Or do you have something else before we do that?

## Awards

Morgan: One more section, I don't know where it would fit in, and I don't know if we've talked about it. This is a bit of bragging, I



Elmo Morgan receiving honorary degree from University of Utah, 1983: Tony Morgan, Elmo Morgan, David Pierpont Gardner

guess. In 1967, I was awarded the distinguished alumnus from my own university, Utah State University in Logan, Utah; in 1980, an honorary alumnus from the University of Utah in Salt Lake City; and in 1983 an honorary doctorate in engineering from the University of Utah.

One final one which I considered an honor, but I turned it down. I had been down at the University of California for three or four years when I was invited to return to Salt Lake City and become the president of the University of Utah. A committee of three Regents, three members of the Board of Regents at the University of Utah, came to Berkeley to "wine and dine me" and try to convince me that I should come back. My wife and I considered the pros and cons, and after serious consideration I turned the offer down. I truly appreciated the invitation, but I was not disposed to return to be a president knowing of the problems that would be confronting the new president and [chuckles] I didn't want to get mixed up in them. It was, however, an honor that made me feel good.

LaBerge: Well, in retrospect, too, that was just when all the campuses in the nation were going crazy.

Morgan: Yes, they were. Trying to satisfy the many constituents of the university that the president has to do is just too difficult. Secondly, I knew some changes that had to be made at the University of Utah, and didn't want to go back and involve good friends that of necessity would be involved. So I chose not to go; also, we were just getting into the real expansion of the University of California, with the three new campuses. We were going steadily up the growth curve in California with not so many restrictions on how to get things done, but to get them done. So it was quite exciting. That was more fun than being a president of a university in charge of parking. [chuckles] But it was a compliment to me. I don't think my wife was too enthusiastic about being the first lady on the campus, and that's really part of the project, too. So, I'm sure if I had decided to go, she would have been a good sport and would have gone, but anyway, that's the end of that chapter. Now we can go to--

## IX UC SANTA CRUZ

### Site Selection##

LaBerge: Well, we were going to talk about the new campuses, and I think we've mostly talked about Irvine and San Diego. There might be just a few questions, but let's go to Santa Cruz. What were you involved in as far as site selection?

Morgan: Most of the site selection work had been done prior to my arrival in January, 1960. Let me amplify that a little. The process had involved looking at many sites. By process of elimination the choice had been narrowed down to two: one in the Santa Clara Valley and one near Santa Cruz on what was known as the Cowell Ranch. I think it was in July of 1960; at least, it was very hot when the Regents decided they would take a bus trip to look at the two remaining sites.

There had been a lot of work done before, in terms of presentations by the people from these two areas, hoping to convince the Regents to locate a University in their area. There were pros and cons for both sites. The Regents couldn't agree on all of the questions still unresolved, so they decided they would take this bus trip to collectively look at each of the two remaining sites--one final look. They wanted to get a "feel" for each site. There is a certain "feel" about an area for a campus.

So the bus trip was arranged. They went first to Santa Clara, and it was a terribly hot day. And Santa Clara can be hot on a hot day. Some of the Regents were noticeably uncomfortable because of the heat. From there they went over the mountain to Santa Cruz, and it was a delightfully cool summer day. It wasn't cold, just nice and cool, at least compared to Santa Clara. They toured each of the sites in some detail, and had further discussions with representatives and among themselves.

So I don't want to make light of their visits in terms of what they jokingly later said: that there could be no doubt where the campus was going to be located; it was going to be located where it wasn't so hot as it was over in the Santa Clara Valley. But anyway, they decided for a number of reasons, to locate the new campus at Santa Cruz. With a bit of levity, they talked about the decision for a long time after in terms of the temperature of the day they made the visits. I'm not sure who arranged the tour on a particular hot day. I'm sure the temperature had some effect on their decision.

LaBerge: You were along on this bus trip, too.

Morgan: I was not on the bus, but I was present on the tour.

LaBerge: I see.

## Choosing Architects for the Master Plan

Morgan: Besides the bus, there were other cars that went ahead and made arrangements for the gates to be opened, and a few other things. The Cowell Ranch was literally a ranch; you had to open and close the gates and not let the cattle out. Following the Regents' decision, we proceeded with the detail of legally acquiring the land and getting started on the physical layout, converting into reality all of the what-had-gone-on-before in terms of programming, academic administration, supporting services. We engaged the firm of John Carl Warnecke and Associates, of San Francisco, to do the master planning of that campus.

LaBerge: How did you choose them?

Morgan: By knowledge of the firm and by narrowing it down to one or two other firms. We then interviewed each to see what personnel was available and would be assigned, how they would proceed, and did they have the capacity at that time to proceed on the time schedule we wanted. So they were given the assignment. Mr. Warnecke himself was a good visionary, a forward-looking architect. When I say "visionary"--he had a good ability to think ahead of where you should go and what things should look like, but he had somewhat limited ability to work out the many details, how you get from here to there. But that was all right; you need all kinds of people.

He had several good architects working for him. One, by the name of Leonard Hunter, was assigned to coordinate this particular project. The firm had a good staff of designers and they were able to start right away. All planning has fits and starts and much discussion. I recall distinctly we had a date set to present the overall plan to the Regents--not the final, but a progress report. We, of course, were checking closely with the architect all the time to see what progress he was making, and it was getting too close for comfort with what we perceived their progress to be and what it should be. Mr. (Jack) Warnecke was a great social architect who loved to travel not only in this country, but abroad.

LaBerge: You mean "social" in quotes?

Morgan: Quotes, yes. [chuckles] Yes. By all means, put it in quotes. I remember Mr. Hunter coming in my office to talk about the presentation to be made on the date already established and hoping it might be delayed. It was easy to detect that they were sort of stalling for more time until Mr. Warnecke could get back from Italy. I wasn't about to be talked into changing our date with the Regents, so I told Mr. Hunter--who was a good friend of mine--that the best thing he could do was get Mr. Warnecke on the phone and tell him if he were not back here and on the job ready for the presentation by the established date, we would cancel his contract and get someone else to finish the job. Mr. Warnecke caught the next plane home and went back to work and got the plan done in time for the presentation. Jack did a good job of presenting his plan and it was well received by the board; it was a progress report.

There were no offices to begin with on the site at Santa Cruz. There was a nearby church that was used for Regents' meetings, and I remember distinctly that's where the presentation was made. I don't know if the room in which it was made had a special ecclesiastical significance, but it had the right spirit in it at any rate [chuckles] to get the progress report accepted.

## Dean McHenry Appointed Chancellor

Morgan: Dean McHenry--and "Dean" is his given name--had been appointed Chancellor by that time. He previously had been dean of Universitywide planning directly under Clark Kerr. Clark Kerr and Dean had been classmates together and had known each for a long time. Dean enjoyed the full confidence of President Kerr, and they were both dedicated and committed to the individual college type of campus that was to be developed for Santa Cruz.

LaBerge: So, was Dean McHenry in on all this initial planning of architects?

Morgan: Yes, he was in on it from the very beginning. Dean McHenry and his limited staff actually had offices on the campus, in some of the stables and barns of the cattle ranch. Those buildings still exist, and they're still used. Most of them, anyway. So, after the plan was accepted by the Regents, we started design of individual buildings.

## Original Master Plan

LaBerge: Now, when you are talking about this initial plan, what did that mean? What colleges were going to be there, or which part of the land was going to be used?

Morgan: The plan encompassed the entire acreage that was given to the University by the Cowell Foundation, which was some 2,200 acres, as I remember. It was much more than we needed. The plan showed the total acreage of the campus, but developed in detail only for the lower part, which was to contain the first colleges. The plan showed the clustering of colleges around minimal central facilities.

By the academic plan, there was to be a central library called "main library." Each college would have its own library facilities, with some definition spelled out in the program of the holdings for each library. But there was to be a central library, a central administration, of course, and some degree of centralization on the physical sciences that required expensive laboratories, i.e., physics, chemistry, engineering.

LaBerge: So this original plan was sort of a general outline?

Morgan: It was a layout or a map, if you want to call it that, showing the roads to be developed, the location of these colleges, or cluster of colleges, including of course, the mundane things such as utilities. The recreation facilities were also shown, these being another central function. There would be some recreation in each of the colleges, but the big playing fields and the gymnasium, and I think, even a football field were centralized. These were facilities that were just too expensive to duplicate in each college. The college was to be residential--tutorial or at least semi-tutorial--patterned after the colleges of Oxford and--

LaBerge: Cambridge.

## Opening Early in Trailers, 1965

Morgan: Yes, Cambridge. Thank you. So we started out on the first college, which appropriately was named Cowell College. It soon became evident--I mean by the time we did all the planning and selected the design architects and got the design started--that we could not have the permanent buildings of Cowell College, or so far as that goes, the minimal administrative and recreational facilities, ready to receive students by the time Irvine campus was designated to receive its first students.

Chancellor McHenry and Chancellor Aldrich had known each other for a long time. They were both very strong competitors, and it just didn't enter--oh, I'm trying to choose the right word--didn't occur to Dean McHenry, Chancellor McHenry, that he was not going to be taking students on his campus as soon as, or in the same year as, the Irvine campus. So he tried to prevail on me to promise buildings available for use by the start of school in fall, 1965. We simply had to get those buildings done and ready to receive the students. I told him we would try, but my professional experience told me there was no way we could have those permanent buildings ready and operational in the fall of 1965. He kept insisting there was some way to do it, and I told him all we could do was try.

It is important to note that this dialogue was taking place about a year before the buildings were normally to be completed. He was insisting it just had to be done, and I said, "Well, we'll try. All I can do is tell you that it won't be ready, and when that year comes and they're not ready, I want to make sure that I'm not the one to blame, that I gave you plenty of warning." I said, "I'll put all this in writing to President Kerr, and let him decide." Which I did.

While all this was going on, we were in discussions among ourselves and with Chancellor McHenry about interim solutions. The most obvious interim solution was to bring in several trailers to accommodate a minimum of students, to at least say the campus was opened. To President Kerr, I made it very plain that I was recommending against planning any admissions on the basis of permanent buildings, because there was no way that they could be done. I did not want to be the fall guy when we were within two or three months of opening school and the buildings weren't ready. So he agreed, and a little later, not too much later, told us to proceed with getting trailers on campus, ready for the opening. Which we did. There were quite a few acres covered with trailers for students to live in, to go to classes in, and they even had a temporary gymnasium building, all in one great big cluster. They had some real experiences with a lot of students living in rather close quarters in trailers. I never experienced it first hand, but there are plenty of stories about unregistered students visiting and enjoying the comforts of the trailers down there. [chuckles]

I think this turned out to be quite a shock and quite an experience for Chancellor McHenry, who is a person of the highest standards and ideals. Dean and I were good friends, and remained good friends. We had some differences. This is not unusual in the academic community. They may take months and months to decide what they want, and they see no reason why a two-year project can't be fully completed in a few months after their decisions are made. Dean was very appreciative of what we did as an interim solution. Somewhat later he wrote me a letter to apologize for all of his "stupidity" and "unreasonable insistence"; I think those are the words he used. I happily and graciously accepted his apologies. But that's how the campus got started.

## Design Architects for Cowell College

LaBerge: Who were some of the design architects for the buildings?

Morgan: Well, Ernest Kump, who later became the consulting architect of the campus, did some. Wurster, Bernardi and Emmons did the first Cowell College, which was the flagship. That's the one that started it out. As a policy, we determined--and in fact, I think it was Chancellor McHenry's idea, and it was readily accepted anyway--that no two colleges would be designed by the same architects purposely, so they would be different in character and look different. Diversity was one of the main guidelines.

So Wurster, Bernardi and Emmons did the first college, and I remember the difficulty we had in getting approval by the Regents, mainly because of different architectural views by different Regents. McLaughlin was still a Regent, and we had to put red-tile roofs on. The site selected was right at the edge of the forest, a redwood forest, just enough out of the big trees so you could look out, over the rolling hills and the bay, but also just enough in the trees so that you could feel like you were in the forest. There was one Regent who remarked: just far enough in so you could hide the architecture. [chuckles]

So it took us three times to the Regents to get the approval on that first college. One we--there was an artist's rendition and an arçhitectural rendition showing the perspective of the layout of the college, with the trees as existing. Actually existing. The architects actually measured the height and everything. In that initial presentation to the Regents, there were enough Regents who didn't like it for one reason or another, so they accused us--by "us" I mean my office and the architects--of drawing all those trees around it to hide the architecture. So they told us to come back the next time without the trees shown on the drawings, which we did, and that was horrible.

LaBerge: I mean, just in the picture; you didn't have to cut the trees.

Morgan: Just in the renderings we didn't have the trees. They wanted to see what the buildings were going to look like without any trees around. [chuckles] We went backward instead of forward on that presentation. So after some discussion and joking, they told us to come back again with the way it was going to look. We'd told them that's what we had before and there were some who remembered. We came back for a third presentation, and they finally approved it. It turned out to be very good, and they liked it after it was built, saw how it was fitting in with the trees. Then the second--.

LaBerge: I had read that Thomas Church had some influence.

Morgan: Yes, he was the overall consulting landscape architect, and an excellent one. There was a strict rule laid down by the Chancellor at the very beginning, and we all agreed with it, that no tree, large or small, could be cut down or disturbed in any way--without his personal approval. That rule turned out to be a good one. He was a little hard to persuade at times, but he was reasonable. Many architects don't mind cutting down trees to accommodate their buildings rather than build with or around them; in some cases we left the tree and literally built the building around it--a tree or trees coming up in the middle of a building. Building bridges, roads and paths and everything was located with minimal disturbance to the natural surroundings.

Tommy Church was a great believer in "McHenry's law" and was a very good contributor in the development of the longrange plan. In fact, early in the planning Tommy Church made the observation that if the many beautiful trees were left undisturbed, the Santa Cruz campus should be "architect proof"--the trees can cover up their designs. Thanks. I'd forgotten about Tommy Church's contribution.

LaBerge: Well, I remembered because we have an oral history[1] of him. He wasn't alive, but it's with many people who worked with him. So I knew that he was involved somewhat; in it there's even a letter that he wrote to the Regents about keeping the trees.

Morgan: Yes, yes. He was a great person.

LaBerge: You'd probably enjoy that volume.

Morgan: To finish up with the idea of the separate colleges: We would have all kinds of discussions on, oh, the flavor or theme that was wanted to be created in the colleges, to give them individuality. We accused the planners of going out of their way to make them difficult to design and build, just to be different. But by and large, they worked out very well. Some terribly brilliant colors used--

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LaBerge: You were talking about the brilliant colors.

Morgan: Used on the exterior and interior, too, of some of the rooms.

LaBerge: Another name I have, as far as an architect goes, is Jack Wagstaff?

## Diversifying the Colleges; Costs

Morgan: Jack Wagstaff was working on the San Francisco campus, and was chosen to go down and be the original campus architect. He was a wonderful person to work with and to work with the divergent views of users, architects and consulting architects, and to bring some consensus and get things moving. He was there for years, until he died. He did a great job. Thanks. I'm trying to think of other--.

Oh, the performing arts, that was another function that was to be centrally located. The location of the Chancellor's house was interesting--not only location, but the design. It has a commanding view out on a little knoll. Chancellor and Mrs. McHenry did an excellent job in programming, laying out a very functional residence for themselves as well as an official University house.

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[1] "Thomas Church, Landscape Architect," an oral history conducted by Suzanne B. Riess in 1976 and 1977, Regional Oral History Office, The Bancroft Library, University of California, Berkeley, 1978.

So there were a lot of ups and downs in getting this all laid out. Constructing paths or walkways for students to get from the somewhat isolated colleges into the central facilities, and there were fairly deep ravines to be crossed. We not only built bridges for vehicles on the roads, but also pedestrian bridges for pedestrians across some of these ravines. So it was quite a layout. It was an entirely different experience than say, San Diego or Irvine, which were largely conventional, out in the open, not exactly flat, but not the kind of contours we had to deal with at Santa Cruz.

LaBerge: Well, for that reason, was it more expensive to build it?

Morgan: Yes. We had to try and convince the Regents initially, and the legislators continually, that the Santa Cruz campus would be no more expensive to the state to build than a regular campus or traditional campus. Of course, in total it was more expensive, but the difference was to be made up by private grants or donations for each college. At least the colleges that I had anything to do with before I retired, there was a substantial private grant for each of the colleges as a nest egg or a starter. I don't remember ever participating in an evaluation and a dollars-and-cents report to the Regents or to the legislature, to show exactly the costs compared with Irvine or San Diego, or anywhere else. But the question continually came up over the years, and we continually assured them that we were doing all right.

LaBerge: Did you have to participate in getting those grants from people?

Morgan: No. Chancellor McHenry was certainly the leading person in it, and with help from the Universitywide Development Office as well as his own development office, friends, and so forth. No, I did not participate in it. Again, I was just in charge of spending the money. [chuckles]

## Advice on Constructing New Campuses

LaBerge: Well, what kind of advice would you give the University now that they're going to develop a new campus, since you've been through this? What are some of the problems of building a new campus?

Morgan: You mean, not a Santa Cruz-type, but any type?

LaBerge: Any type.

Morgan: Well, my first advice is just to think of all the problems you could ever recall from your own experience or anyone else's experience, then just put down on your book that that's only half of them. [chuckles] It's simply a lot more difficult to proceed now because of all the limitations or additional factors, primarily in the environmental field. That's not only physical environment, but social environment, too. As I've said before, these cities and towns will do handsprings to get a college or a university established in their community. The reasons are primarily economic--an expanded tax base and other income. Later, when the campus gets into operation with community-related problems of traffic, utilities, police and fire protection and so forth, the once solicitous elders of the community view things differently, and you really have to stretch your diplomatic abilities to get along with them. Now they want financial help from the University to pay for the promised services. So that has to be anticipated.

But the main thing I've experienced over the years and by other planners, is that you never plan big enough. The primary reason you don't is because of fiscal constraints that you have to live with as you go along. You think you've got something big enough to last "forever" [quote, unquote] and you'll be surprised how soon "forever" catches up with you. That's been my experience, whether on campuses or on construction of highways. You build a freeway that's going to be adequate forever, and in ten years the number of automobiles using the road has increased beyond the wildest projections and your "highway forever" is forever clogged. Then you have a difficult time, whether it's expanding a campus or expanding a highway, to get the necessary real estate or right of way to do it with.

So I think the Regents wisely adopted a policy of seldom, if ever, selling any of their real estate. Especially if it's associated with or near one of the campuses. There are instances of land given by donors in various locations that has been accepted by the Regents and later sold because it doesn't tie into or relate in any way to any academic function. But it's turned out to be a very good policy. Over the past years some land has been sold that I know they later wish they hadn't. Because conditions later changed and the land could have been well used.

## X UC IRVINE

[Interview 10: August 29, 1991]##

### The Irvine Land Company

LaBerge: Early on when we discussed Irvine--this was several months ago--we talked about how you found L.E. Cox, and we talked about William Perreira being the architect and Dan Aldrich being the Chancellor. But what we didn't talk about was the Irvine Land Company, and how the decision was made for the University to have the land, and how that all came about. I think that there was some special contract with the Irvine Land Company or that they were already involved. Was there an exclusionist clause about surrounding land?

Morgan: Yes. The decision had already been made by the time I came to the University, at least that a new campus was needed in southern California, somewhere roughly between UCLA and San Diego campuses. It was a big, populous area, and growing rapidly. So far as I know, and this is only a guess, the Irvine location came into focus primarily through Regent Carter, who was on the board of directors of the Irvine Land Company. Of course he knew about their vast holdings of land and perhaps their inclination, or maybe even a decision, of wanting to do something to help higher education either by making land available at a good price or maybe some contribution.

At any rate, a decision had been made by the time I became involved that the new campus would be on land then owned by the Irvine Land Company. The then Secretary and Treasurer of the Regents, Robert M. Underhill, handled all the negotiations with the Irvine Land Company. We of course supported him in any way he needed us. Also, we worked with him to develop the idea of an inclusion area or areas.

LaBerge: What does that mean?

Morgan: As part of the longrange planning for the new campuses, especially Irvine and Santa Cruz, and also based on past experience at other campuses, it was more and more difficult to find sufficient land on all campuses to provide housing for students and faculty, especially faculty. So it was decided that apart from the land needed for a conventional campus with its academic and support buildings and all the student and athletic facilities, there should be some land set aside that could be used for the building of faculty housing as well as married student housing and even dormitories to provide low-cost housing for students. At that time the inclusion areas were considered only as a mass of land without regard to how the land would be administered, subdivided, turned over to developers on a contract basis or whatever. It was only a question of acquisition of land. The Irvine Land Company was receptive to the idea, and the idea entered into the negotiations. I've forgotten the price paid for the land, but I do remember it was at a very reasonable rate compared to what the going rate in that vicinity was or was accelerating to become.

LaBerge: So as part of acquiring the land, it had something to do with how the site was going to be developed?

Morgan: That's right. It was very much a part of the thinking of that time. The way it was going to be developed was then not known for certain, but at least the land was there, that could become developed for the intended uses.

LaBerge: That seems really far-sighted, particularly when we look at Berkeley now, which needs a lot more housing, and there's trouble finding enough land and money.

Morgan: Yes. Berkeley, and UCLA is another prime example--there's just no reasonable housing close enough to the campus to take care of the faculty and students. As old faculty members retire they naturally, most of them, continue living where they have been. Their replacements, new faculty, have got to find housing somewhere. It's a big problem.

## Planning with Demographic Projections

LaBerge: Would you say that's something important to consider when the University is building whatever the tenth campus is going to be?

Morgan: Yes. It's certainly a factor to be taken into consideration. Either the University should control it, or they should have some understanding with the local authorities so as to feel reasonably comfortable about what the picture might look like some twenty-five, thirty or fifty years down the road. It's all too easy in planning to feel good and great with plenty of room at the time you're doing the planning without thinking fifty years ahead. You don't know for sure what's going to happen, but you know something is going to happen. And that's one of the real shortcomings in a lot of longrange planning.

LaBerge: How did you go about making those studies on, you know, what are the projections for the next fifty years?

Morgan: Most of it is just having a good crystal ball. I use the term "fifty years" and that's really longer than even the best longrange planning gets into. But it does come about. In planning any University campus, of course, you start with demographic data, not only of the area in which you are going to locate but also for the entire state. Then by using past experience extrapolate into future years what student population might reasonably be expected.

LaBerge: Who does that, and how do they do it?

Morgan: Oh, the state has people, perhaps a whole department, that does nothing but update demographic projections. These demographic projections are based largely on each ten-year U.S. Census. They study shifts in population, growth in different areas, and so forth. The University gets its basic data from whatever state department it is, including growths in student population, according to ages, i.e. K through 12, high school. They follow the graduation rates, dropout rates and the enrollment rates in colleges--they have a whole book full of trend lines. I'm sure the University gets its basic data from that source. Based on this basic data the University then applies its own demographic projections, and develops its own trend lines. And that is done somewhere in the President's Office.

Specifically as to a new campus: early on the Regents established an ultimate maximum enrollment for the new campus--25,000 students, which has been the target figure most used. After you settle on the projection of the initial student enrollment for the proposed new campus, the number of faculty is a function of that total enrollment, largely by formula, at least in the early planning stages. After the total number of students is agreed upon initially and in ten to fifteen years in the future, an academic program for that particular campus is developed and eventually approved through academic committees and the statewide Academic Senate.

LaBerge: And this is even before the campus is in existence?

Morgan: Oh, yes. There are a lot of things going on concurrently--the academic program is being developed before they have final student projection, for example. The people charged with finding a new site don't wait until the whole academic program is approved before they go looking for a site; there are a lot of things going on concurrently. The main thing that is needed in the acquisition of site is the longrange picture of how many students, and to some degree, the academic program--if it's going to be as strong in physical sciences as well as in humanities. It means something, but not a whole lot, in terms of acres of land.

Within the University of California, and as already noted, the Regents established many years ago the maximum size of a campus as 25,000 students, if there is no medical school. With health sciences the total may go up to 30,000 or 32,000. There are campuses in the United States with larger total enrollments than at Berkeley or UCLA, but there is an upper limit for a number of reasons as to how big a campus should be in terms of students, faculty, and other supporting people. So it isn't as though you're going to end up with a campus of say 50,000 or 75,000 students, which in my view, would be totally impractical. Berkeley, however, has consistently been above the 25,000, and I think UCLA has, also. But there are some practical limits that guide the longrange planners.

Another important consideration, besides the total acres that might be available, is the availability of basic utilities, not only at the present, but their expansion into the future. Most utilities can be expanded, but at a cost. You certainly have to have an understanding of who is going to participate in the cost. Water is perhaps a limiting factor that is becoming more and more important and more and more difficult to expand.

## Utilities

LaBerge: How do you go about assessing the availability of the utilities? What did you do at Santa Cruz or Irvine?

Morgan: As I recall, basic utilities are not a problem at either of those campuses because they either existed or there was no long term limits on them. But to assess them you simply have to gather the facts from local or state public entities who deal in those things, then apply your assessment of the validity of what you're hearing and project into the future to see how they balance out. That area of longrange planning is probably more susceptible to factual data and factual interpretation than the projection of enrollments and academic plans. However, it's something that's easy to overlook.

Waste disposal is another very important element. We run into that in Berkeley time and again in that the storm and sanitary sewers simply get overloaded, not entirely by the University, but by expansion external to the University. Then the city of Berkeley wants the University to help pay for the enlargement of the facilities to handle the total growth of the city.

But when you're looking for a site, the cities or towns or counties that are interested in having the University locate there are very solicitous. Once you've made the decision and established a campus, then they tend to drift to the other side of the fence, and want the University to pay for everything.

LaBerge: When they see the impact, for one thing.

Morgan: That's right. There is an impact, positive and negative. For them it's a big salary base coming into the vicinity that means growth in businesses and sales tax, but there's also an outgo in terms of accommodating growth from this rather sizeable "neighbor," i.e, a state university that pays no taxes on the land they occupy.

LaBerge: How much did you get involved in community relations at the different campuses?

Morgan: Not too much, really. The Chancellor was the spearhead and point of contact with most of the community development. When I say the Chancellor, I mean the Chancellor and his staff. Some of his staff that became very much involved were of course in the area that I was supervising, that is campus planning--architects and engineers and so forth. So as far as my offices were concerned, we would largely support whatever the Chancellor was trying to accomplish with the local politicians and community groups.

## Dan Aldrich and Community Relations

LaBerge: Well, getting back to Irvine, I just read in my research that Dan Aldrich was very good at that.

Morgan: He was.

LaBerge: I'm not sure what all the politics were, or what he needed to do.

Morgan: Dan was a very likeable person, very outgoing, very impressive in his physical being, his demeanor and his presentation. You simply couldn't help but like him. And he got on very well right from the beginning with the officials of the Irvine Land Company. I'm sure he made it a point to be very open and cooperative and had a willingness to discuss things thoroughly with the Irvine officials. I attended several meetings on different subjects that involved the campus with the Irvine officials, and that was certainly the flavor of all the meetings that I attended. Dan's staff, especially L.E. Cox, had many, many meetings with the manager of the company, working out a lot of details and keeping things running smoothly. I'm sure that the Irvine Land Company officials had a lot of positive support from their board of directors, from their higher echelons, in helping the University get started to the point where they could start taking students, and presumably ever since. I don't know.

## Physical Planning for Irvine

LaBerge: So who was involved with the physical planning for that campus? Was the Irvine Land Company a part of that?

Morgan: No, not directly. After we once bought the land there were some covenants and restrictions in the deed, I'm sure, but aside from that, they were not involved in approvals of buildings and utilities. As a policy, Dan Aldrich and L.E. Cox would keep them apprised of what was going on and what was developing. But the approvals that we've been talking about, of interest to the University, were all internal to the University. The later development of the inclusion areas and the commercial development on some of the perimeters of the campus was a cooperative effort, much more than the academic areas and the University support areas. I'm not up-to-date on what kind of agreements were reached, either with the Irvine Land Company or private developers on what's gone on and is presently going on, in the inclusion areas.

LaBerge: Who basically worked on the plan? Your office?

Morgan: Well, yes. Initially it was largely Bob Evans.

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Morgan: Bob Evans and his staff working with the architect Bill Perreira and his staff, along with whatever staff was initially available at the Irvine campus, but especially Cox, Aldrich, and some academic people. The initial effort in planning of this sort is to get a general layout and assign gross areas for different functions of the overall plan, i.e., academic support, student housing, administration, maintenance areas, etc. Even within the total academic area there needs to be a dedication of zones or whatever you want to call them, for physical sciences, humanities, engineering and so forth, and a broad breakdown that requires essentially the same kinds of facilities, some with much more space than others. Within these designated zones there must be left room for expansion, with a very general outline of how things are going to relate to one another.

You then have to be very conscious of, and keep asking yourselves, "Is the total academic plan as envisioned and written up thus far going to be adequately accommodated?" After defining the "extremities of the puzzle" and the major pieces of the puzzle, you then begin to develop an architectural theme. This involves quite a bit of oh, I was going to say cutting and trying, but it's largely a test of the innovation and skill and competence of the outside architect that you've hired in the first place to do the work.

LaBerge: This being Mr. Perreira?

Morgan: Yes, Bill Perreira. In fact, Mr. Perreira was selected in the first place because of his being a good, innovative architect not only with a high degree of imagination, but with quality associated with it. He was certainly not a fly-by-night, flashy, Hollywood type, but he had a good reputation nationally as well as in southern California. So the concept of the arrangements of buildings and of the buildings themselves was largely with Perreira. His ideas would of course be presented and discussed on a regular basis with the campus staff and with my staff.

LaBerge: Eventually up to the Regents? Or once you chose the architect and everything else did you all make the decision? Or did the Regents get involved?

Morgan: No, the Regents were very much involved. That was going to be the next step. [laughter]

LaBerge: It sounded too easy, right?

Morgan: After we had something that we felt comfortable with, we would present it to the Regents, or at least to the Grounds and

Buildings [Committee] of the Regents, first as a progress report, to get their reaction or ideas, and to bring their thinking along with ours. Eventually, the total Board of Regents had to approve the proposed layout of buildings as well as the total master plan. It was only good politics to bring the Grounds and Buildings Committee along with us, so that we would have "friends in court" when the final presentation had to be made. We did, of course, get very valuable suggestions from various Regents. We also got some that were a little hard to handle, and some that we viewed as not very helpful.

LaBerge: Were there any special problems or anecdotes about the Irvine campus?

Morgan: Not in particular that I can recall. It was known from the beginning that Irvine was going to have a medical center. This meant dedicating a considerable part of the land within the total plan as a site for the medical center, and later to include a teaching hospital. Initially the county hospital was, and maybe still is, used as a teaching hospital.

The main academic core of the Irvine campus was a large arc, later to become a large circle. How to locate all the utilities is a problem on any development, but there were no special problems at Irvine. We had decided early on that all utilities would be underground. Let's see. I can't think of any other problems.

# XI UC SAN DIEGO

## The Inverted Library

LaBerge: Okay. What about San Diego? We've only discussed that a little bit, another time when we were talking about--I can't remember the name of it, but you had this heating and ventilating package that you tried out at San Diego. You bought a package and you tried it out in one of the buildings at San Diego.

Morgan: Oh, that was in a residence hall construction.

LaBerge: Right. Did you do anything like that at Irvine?

Morgan: No. San Diego was our guinea pig, or pilot project--[laughter]--on using what was known then as a University Residential Building System.

LaBerge: URBS.

Morgan: URBS. And it worked well. I think we talked about that.

LaBerge: We did.

Morgan: It worked very well, but didn't last too long for a number of reasons, so it did not become a part of building student housing at Irvine. It was used to a lesser degree on other campuses, or certain parts of the system were used, but we ran into too many problems nationally and on a statewide basis in terms of insurance and political pressure from established businesses that were not successful in bidding the original URBS system. Political pressures never die; they merely increase. We gave up on the URBS system.

I think--I can't recall--we talked about the consulting architect down at San Diego and some of the problems on the inverted library?

LaBerge: Well, I don't think we did talk about the inverted library. The only names I've got are Risley and Gould for San Diego. Architects for the School of Science and Engineering.

Morgan: The consulting architect was a Los Angeles architect by the name of Robert Alexander.

LaBerge: Oh, you have mentioned such a name.

Morgan: And he was later replaced by Quincy Jones, also from Los Angeles.

LaBerge: You have mentioned their names, but I don't think we talked about the inverted library.

Morgan: Well, this was not right in the beginning. "Inverted" has to be in quotes.

LaBerge: Maybe we could get a picture of it.

Morgan: It really wasn't inverted. The top floors were bigger than the bottom floors. You had a very broad base, but then as each level or story went up, each higher story was slightly cantilevered over the story it was resting on. Therefore it looked a little bit like a toadstool. It was to be the theme building of the campus. It was and it still is, but there was some added cost associated with this type of design, and parenthetically I must say that I thought it was a good design. There are certainly differences of opinion; it wasn't a unanimous decision on the design, but it was a majority. So we had studies made of the added cost for that kind of design. The people in Sacramento questioned it, but the Chancellor was positive about it and he was a very persuasive person.

LaBerge: Who was the Chancellor at this point?

Morgan: John Galbraith. President Kerr liked it and enough of the Regents liked it that we finally got approval.

LaBerge: Who was the architect for that particular building, do you know?

Morgan: Yes. It was Bill Perreira. The library facilities have since been expanded, not vertically, but horizontally at the base. It would be very difficult to expand vertically, and this was one of the concerns from the very beginning.

LaBerge: So were there special problems with the utilities and maintenance of that building?

Morgan: No. There were adequate utilities, it was just a matter of again, getting them all underground at the right capacity, at the right place, at the right time, but that's not unusual. The main challenge on the San Diego campus was making use of the wooden buildings that were part of Camp Matthews, and still fairly good buildings at the time the University acquired them from the federal government. The problem wasn't so much making the initial use of them, but getting rid of them to make way for new buildings. Again the old saying, and it was certainly true there, that there is nothing so permanent as a temporary building. We had that problem on nearly every campus except the totally new campuses of Santa Cruz and Irvine. It's certainly true at Berkeley, in the glade, the old World War II buildings.

LaBerge: That's right. The T-whatever?

Morgan: I think they are just about to go.

LaBerge: I think so, too.

Morgan: With the expansion of The Doe Library or probably Moffitt Library, or both. So the army buildings served a very useful purpose, and many of them are still in use at the San Diego campus. Without these buildings initially, we would have had a problem of getting space in which to put the initial students. And even the Chancellor's office is in one of them. We certainly couldn't have admitted students as early as we did, except by using the temporary buildings.

I'm not sure we talked about it, but an incident that comes to mind is how to get across the main state highway that ran right up through the campus.

LaBerge: No, we haven't talked about that.

## The Wellman Bridge

Morgan: Of course Interstate 5--Interstate 5 goes north and south--has since been completed and the old state highway, 101, that used to go right up through the campus, has been closed off now. The first college we built, since named Revelle College, was on the opposite side of Highway 101 from the main administration building, i.e., the old Camp Matthews buildings. We had to build a bridge to get across the highway, a pedestrian bridge, but had no appropriation for it. Our outside architects and engineers came up with a design for a nice bridge that, as I recall, had a price tag of about $75,000. We presented this to Vice President Wellman, who had offered to help find some discretionary money with which to build it. He said there's no way he could find that much money. He was a very kind person but very firm when he said: "You guys must be crazy." He went on to say, "I'll give you $25,000 and no more, and you should be able to build a bridge for that." So we did.

LaBerge: So how did you do it?

Morgan: Oh, it was done by going to pre-fabricated arched trusses with a much less pretentious design. Also, by doing a little of the entry and exit facilities with our own maintenance forces. But anyway, we got a pretty good-looking bridge across the road. It's still there, and I don't know whether it's been officially named or not, but upon completion we named it the Wellman Bridge. As I say, it's still used by pedestrians very much, and looks pretty good. But every time I'm down there and I drive along "old 101" under that bridge, I think of Harry Wellman in his office that day saying we have to have it, and "all I'll give you is $25,000." [laughter] I'm sure we "snitched" a little bit here and there to get it done, but we did it.

LaBerge: Well, that's a great story. It reminds me of your bridge story in Los Alamos, where you wanted a four-lane and you could only have a three-lane.

Morgan: So we just widened the three lanes a little bit. [laughter]

LaBerge: How about the residential college concept at San Diego?

Morgan: The concept of residential colleges proved to be quite satisfactory and operable. They were different in concept from the Santa Cruz campus. At San Diego, from the very beginning, they were conceived only as a residential grouping of buildings. At Santa Cruz they were not only conceived as residential, but to some extent, academic, with classrooms and other academic facilities being an integral part of the college itself. Largely for fiscal reasons they've since had to alter the Santa Cruz campus concept somewhat.

LaBerge: For instance, by not building another college?

Morgan: By having more central academic facilities and less dispersal in the colleges. It became too expensive to duplicate the academic facilities in each of the colleges.

# XII EXPANSION OF EXISTING CAMPUSES

[Interview 11: September 5, 1991]##

## UC Riverside

LaBerge: The last time we finished up talking about the new campuses, Irvine and San Diego. So I thought today we'd talk about expansion at the campuses that were already existing. And maybe you could say something about, for starters, the Riverside campus, and what you had to do with any expansion there.

Morgan: The Riverside campus had been a Citrus Experiment Station for many years, and I'm not sure of the date at which the Regents decided to make it a general campus; it was before my time. It was to be a small liberal arts college of about 1,500 or 2,000 students. This, as I understand it, represented the strong opinion of the faculty there at Riverside. They simply didn't want it to be a big, impersonal campus.

As an aside, I remember hearing about this decision when I was at the University of Utah. I was sharing an office with a faculty member by the name of Thomas Broadbent, who had been selected to go to the "new campus" at Riverside to be the dean of students. I recall how excited he was about this, telling me how nice it would be to be in the position that he was going to be in at a small college, which would be manageable and not too consuming in bureaucratic procedure.

At any rate, by the time I came to the University of California a second decision had been made by the Regents that the Riverside campus would have to become considerably larger than first envisioned. This did not meet with too much enthusiasm by the faculty then on campus, and their resistance continued for a number of years after that. There may still be some older faculty members not yet retired who still feel betrayed, although I imagine they are all retired by now.

As with other campuses, we hired a consulting architect to help develop a longrange plan. We proposed and the Regents approved a southern California architect living in the greater Los Angeles area, by the name of George Vernon Russell.

## The Arches and the Bell Tower

Morgan: He had a good reputation as a design architect with several important projects to his credit. And indeed, he turned out to be a good campus consulting architect. He was very imaginative, well liked on campus, and fit into the various committees very well.

It was by then an established policy of the Regents that the consulting architect on a particular campus would not do what was called executive design work, except perhaps on a key building or group of buildings that was to set the architectural tone for that campus. This turned out to be the case at Riverside, and Mr. Russell was selected to do the design work on the "fine arts building." That's not the present official name. He established his "trademark" on that building, which were large arches in selected places in the first story facade of the building. The same arch-design was repeated along the covered walkway that connected this new building to existing buildings. The "arch concept" has been used many times since then.

LaBerge: Were these just in the new buildings, or did they redo some old ones, too?

Morgan: No, in the one he was doing. The same trademark, the arches, was repeated in later buildings, in different ways of course since other architects would find some place in other new buildings to recall the theme, but not overdo it. It was necessary in all the campuses to make sure that the established theme was not overused to the extent that it would become monotonous on the campus. I must say that George Vernon Russell, in his continuing role as a consulting architect, was quite good in seeing that his theme was not overused to the extent that it become misused. But his trademark is definitely a part of that campus, and if you go on the campus today and get into the central core of the campus, you will immediately recognize it. In a similar way Bill Perreira left his mark on the Irvine campus, Welton Beckett on the UCLA campus, and Chuck Luckman on the Santa Barbara campus.

LaBerge: Did they have definite trademarks like that, arches?

Morgan: Yes.

LaBerge: What were they?

Morgan: Some of them are a little too hard to explain. [laughter]

LaBerge: Okay. But you can tell if you're there?

Morgan: Yes, you can tell that they're there. Berkeley is a little bit hard to describe as a trademark because there are so many old buildings and so many different styles. But the best trademark that can be identified on the Berkeley campus is the red-tile roofs. But back to Riverside. Regent Philip Boyd lived in Riverside.

LaBerge: Oh, I didn't realize that, that he lived there.

Morgan: Yes, that's his home--lived in Riverside, and naturally was very fond of that campus and in effect, "fathered it." He contributed considerable sums of money to different projects on the campus, but never wanted to be known for it. One structure in particular was the bell tower building, for which he provided total funds, but consistently refused to have it named for him. Informally we called it the "Phil Tower," but it was never officially named. Since his death some two years ago, this may have been changed and the tower officially named, although I am not certain of this. We can check that.

Although Regent Boyd did give considerable amounts of money to several projects, he was careful not to dictate his wishes nor become too involved in the design. The one exception was the bell tower building. On this structure he worked very closely with the architect, especially in the interior and exterior lighting as well as the area immediately surrounding the tower. For those of us who had been working on the campus, and for those living there, this tower was a relatively small, but tall, structure that made a great difference in that it provided a point of orientation and sense of direction.

Riverside is a relatively flat campus with low buildings, and was in need of some highly visible landmark that could be seen from anywhere on campus and provide the orientation just like the Campanile does on the Berkeley campus, or the Storke Tower at the Santa Barbara campus. But the bells came and were installed and the music was beautiful. I remember the celebration at the opening; it was a great occasion. But even on that occasion Regent Boyd would not permit the identity of his contribution except in a very general way.

LaBerge: When the decision was made to expand on that campus, were you involved in that? Or had it already been decided?

Morgan: To become a liberal arts college?

LaBerge: Well no. To become even bigger than the 1,500 or 2,000.

Morgan: Yes, that happened after I came, but I didn't have anything to do with the decision of making it bigger.

LaBerge: You just had to do the job.

Morgan: We just had to do the job. That's right. [laughter]

LaBerge: Was that one any easier than others? Because it was flat and--?

Morgan: Well, not so much because it was flat, but because there weren't so many existing structures which you had to work around or be compatible with. It was essentially the beginning of not an entirely new campus, but much different from trying to expand, say UCLA or Berkeley. It hadn't been in existence long enough to have many buildings. Some of them were not located where they should be, but you had to plan around them. So Riverside to that extent was easier. Also, they had considerable land that you could use to work with. A lot of the land belonging to the Riverside campus is away from the central campus in agricultural areas, and of course the longrange campus plan didn't have anything to do with those outlying areas except to recognize that they existed.

LaBerge: But are they in use for the agricultural studies anywhere?

Morgan: Yes. They're still in use for agricultural studies. The role of the Citrus Experiment Station did not diminish because of the expansion to the general campus. In fact if anything, it was enhanced and expanded as other related disciplines became established on the campus. We of course had to build student housing. The city of Riverside and its environs simply weren't big enough to accommodate a lot of student housing. So residence halls became a high priority. We also built a Chancellor's residence up on the east edge of the campus, and even found an old temporary building and converted it into a faculty club. I can't remember now if this was a "come along" to help make peace with the faculty because of the change in the status quo of being a small liberal arts college or not. Anyway, it was a good faculty club and had good food and provided a focal point for a small, struggling faculty.

LaBerge: Did you have to do some negotiations with the faculty during this time?

Morgan: No.

LaBerge: No? Someone else did.

Morgan: That's right. By the time I came to the University, Herman Speith was the Chancellor at Riverside. He and his staff were easy to work with and we had excellent working relationships.

## Swap of Land with the Mormon Church

Morgan: There's another incident on the planning of that campus that may have a little historical significance, and in which I played an easy role and perhaps unwitting role--and far too much credit. As is common in many different states, the Mormon Church has nearby seminaries, quite apart from the campus itself, but reasonably close to the campus so that the students who belong to that religion can participate in classes and other activities sponsored by the church.

In the case of the Riverside campus and long before I came to California, and before there was too much of a campus in Riverside, the church had acquired a plot of land not too far from the campus. When we came to developing the longrange plan for the campus, with an eye on room for expansion, it turned out that the land owned by the church was essentially in the front yard of the yet-to-be expanded Riverside campus. No structure was yet built on the land, but the church did own it.

Not too far from the church-owned land was a plot that the campus did own and it became highly desirable to trade land with the church. The campus people made contact with local church officials who were sympathetic to the swap of land, but they had no authority to approve it at a local level, but did outline the channels of command into the church hierarchy at Salt Lake City.

LaBerge: While this was going on were you aware of the whole issue?

Morgan: No. I became aware of it--I was hesitating to try to think how I did become aware of it. It was in one of our regular meetings about campus planning, and the point was brought up by the Chancellor, how much better it would be for the campus and the total unity of the campus if they could effect the swap of land with the church. I remember asking questions and that's how I learned about what I just related.

I told them that by coincidence the man in charge of all of the church properties in the hierarchy in Salt Lake City was a personal friend with whom I had worked when I was living in Salt Lake City. I told them there'd be no problem at all to call him on the telephone, which I did. And he responded immediately that there would be no problem at all, simply have the local church people send all the details to his personal attention, which they did, and the swap was approved. I hadn't thought of this as any great contribution on my part, but time and again Chancellor Speith and at least once Regent Boyd told me what a great contribution this was to the planning of the campus. Of course it made me feel good but as I said, it was no great effort on my part. I did, however, later thank my friend in Salt Lake City.

LaBerge: That's good. What was his name?

Morgan: His name is Mark Garff.

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Morgan: I should add that if a swap of land had not been effected, the church seminary building would be immediately along the entrance road into the campus rather than a few hundred yards west of the entrance road, where it is now located. The seminary building is a good-looking building, compatible with the architecture of the campus, but to have it immediately in the front yard would not have been too desirable.

LaBerge: For neither the University nor the seminary.

Morgan: That's right. Now, you were asking me a question.

## The Mission Inn

LaBerge: Well, I was going to ask if you would just relate your anecdote about the Mission Inn.

Morgan: The Mission Inn is a landmark in downtown Riverside, a wonderful hotel and place where Regents, staff, and other University-related people would stay whenever going to Riverside, especially for Regents meetings. It was loaded with charm, with several different eating places, all serving good food. It was just a nice place to stay. I might add that there is a little chapel in the old inn, where Richard and Pat Nixon were married, at least the plaque so states.

On one occasion, there was a meeting on campus involving some Regents and representatives from the President's Office. As usual we stayed at the Mission Inn. Those of us who were involved in the meetings came to the lobby about 7:30 a.m. to leave for the campus. We were all surprised to find the doors chained and padlocked. There was no great problem, because the sheriff's representative was there to unlock the locks and let us out. It was equally as surprising at a later hour when some of the wives came down and found they were locked in.

It turned out that the inn had apparently not been paying its bills and the creditors had taken over. I suppose they didn't have the relatively easy procedure of Chapter 11 bankruptcy like we have today. At any rate, the hotel management was most apologetic, and very accommodating about opening and closing the gates. We continued with our stay during those meetings and had no trouble getting our baggage out to go home. They later opened up and even some time later some company or hotel chain invested considerable money to the remodeling and reopening, but I understand it has closed again, but remains an historical monument.

LaBerge: That's a great story.

Morgan: It was quite an experience for all of us to be locked in.

LaBerge: I'm sure, I'm sure. [laughter]

Morgan: The lockup occurred while we were all asleep.

## Regents Meeting at Different Campuses

LaBerge: What did you think of that idea of having Regents' meetings at different campuses? I know they don't do that anymore.

Morgan: Well, I thought it was very good, because it actually forced, if you want to use the word, the Regents to visit the campuses. And it turned out to be a very valuable experience in any number of instances in terms of explaining what conditions were like on the campus and getting buildings located and other things pertaining to the physical development. I'm sure there are a lot of other payoffs in areas other than physical facilities.

They discontinued it during the Free Speech days when the disruptions on some of the campuses--particularly Berkeley and UCLA--became so intense and in some cases "nasty" that the Regents discontinued the practice. I understand in recent years they are getting back to that practice, although the number of meetings per year has been greatly reduced. And whether or not they rotate to all the campuses I simply don't know. It became necessary for them to move where security was easier to provide, which of course, included limited access for the protestors, whether they were students or non-students.

In going to the campuses the wives were invited and in fact many Regents' wives and officers' wives did attend. There were always functions of some sort arranged for the wives that did attend, and the Thursday night dinners were a very beneficial social event, which developed a sense of unity for the total University family. These functions largely disappeared when the visits to the various campuses changed. They were also considerably affected--adversely affected--after Reagan became governor. The last of these meetings with social activities that involved the wives was at Santa Barbara, after Reagan became governor. I won't say any more about the subject since it has no direct relationship to the items we are discussing.

LaBerge: Well, anything more on Riverside before we go to another campus?

Morgan: That's all I can think of about Riverside.

## UCLA

LaBerge: How about UCLA? Was there any expansion there when you were in charge of this?

Morgan: Yes. There was considerable expansion there. There was a greatly expanded curriculum, and a great expansion in the size of the student body and other activities--athletic and sports, all kinds. There was minimal capacity on campus or near the campus for students to live. One residence hall had been built several years before I got there--Myra Hershey Hall. So one of the first big projects we had was building the residence halls on the west side of the campus, and that was a big project. I've forgotten how many students we built for at that time. There were four big residence halls. The names escape me.

The library facilities were very inadequate. Physical science--well all the buildings--physical, social, just required a big expansion to accommodate the expanded student population. There was already a medical school there, but it needed expansion and again, disciplines were added, so there was a huge expansion of the medical center. Parking was a severe problem, which could be solved only by building parking structures.

LaBerge: Is it one of those many-level type things?

Morgan: Multi-level parking structures. The athletic facilities were practically nonexistent and that's how Pauley Pavilion came into being--the major source of funds being from Regent Pauley. The student union building and related facilities were very inadequate and needed to be greatly expanded. Fortunately, over the years the Regents have acquired land to the west of the original campus at Los Angeles, and provided room for expansion. As years went by and these many buildings were filled in, I think it's safe to say that now there is very little room for future expansion on that campus even if they wanted it. There had been some agricultural land on the west side of the campus, and some academic courses related to agriculture. These courses were transferred primarily to the Riverside campus, and the orchards and other land was used for buildings.

LaBerge: So what architects were involved?

Morgan: The consulting architect approved for that campus was one who had done considerable work there as the executive architect, and his name was Welton Beckett. He was well liked on campus and by the Regents, and fit very well into the social structure in the Los Angeles area, which was an unofficial requirement, it seems, in that area. [laughter]

LaBerge: You know, I think--from my vantage point--it's so good to have someone like you who can kind of see that whole picture. The fact that you realized that was a requirement, but you could kind of go with it and--.

Morgan: Oh, yes, you had to go with it.

Along with all the other expansion, there was an existing faculty club, but a new faculty club was built and became a very important part of life on that campus. Let's see.

LaBerge: So did you spend a lot of time down there during this time?

Morgan: Yes. The Chancellor on the campus left shortly before I came. He had come down from the state of Washington and for whatever reasons I don't know, left after serving a rather short time. A fellow by the name of Verne Knudsen was named as the acting

Chancellor until the permanent one was recruited and on the job. The permanent one, the one that I dealt almost entirely with was Franklin Murphy, who was an M.D., but a very broad-gauged, enterprising person.

LaBerge: That's interesting that an M.D. would want that job, isn't it?

Morgan: Well, I don't know how long it'd been since he practiced, but as I recall, he came from the Midwest somewhere. I did have limited contact with Verne Knudsen before, and he stayed on the faculty after Chancellor Murphy came. Knudsen was internationally known as an acoustic expert; he was a physicist with a specialty in acoustics and was internationally known for his acoustical work.

While we're on that, we were building a new physics building or remodeling the old one--both--and because of his pioneering work and interest in acoustics, he was insistent that the new building have an anechoic chamber. It's a chamber in which there is absolutely no sound--it's "dead." It's a room where sounds are completely absorbed. You could yell at yourself and you couldn't hear a thing--no one next to you could either. It was a big thing at that time, very expensive to build, and Verne was very proud of it.

Not too long after we got it finished he retired and I don't know if it was ever used after he left or not, but I remember we had to essentially tear it out and convert the room to other uses, because the science of sound had progressed to where even his colleagues didn't use it anymore. Anyway, he was such a great person, this was in a way an honor and a pleasure to build some tribute to him. All levity aside, he conducted some very valuable experiments in it which probably contributed to the state of art even before he retired and later died.

## Chancellor Franklin Murphy

Morgan: But Franklin Murphy, as I've said, was a very enterprising, innovating, challenging person to work with. He was strong on decentralization and I'm sure he and President Kerr didn't always see eye-to-eye on this problem although Kerr himself was also strong on decentralization. I don't know that Franklin had any designs on the presidency of the University, but there was no question in anybody's mind that he wanted to be the kingpin at UCLA.

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LaBerge: You were just talking about Franklin Murphy being a kingpin at UCLA.

Morgan: Yes, he was determined to be the head man at UCLA with little or no interference from the central University administration. He had his own ideas about how to administer, and they were usually very good, and he wanted to go about doing them. Right from the very beginning his chemistry and mine matched up. He told me: "Work closely with my staff and I'll back you up."

I had very many friendly one-on-one meetings with him; he was always very approachable, easy to talk to. I remember in one of our early meetings, giving him the background of how everything related to physical facilities in my area had been highly centralized in the President's Office and that under President Kerr's direction I was attempting to decentralize. But it would take time. I told him I personally believed in decentralization and I would eventually get it worked out with his people. I would keep him fully apprised of our progress. He said he had so many other problems to take care of on campus and he knew so little about the building business that he would be very glad to have me do just as I was planning to do, and he'd feel comfortable with it as long as I kept him informed.

From that informal discussion and gentleman's agreement we went forward with the planning for the expansion of the campus and the decentralization, which didn't happen all at once but took several months to accomplish. He was always appreciative of my openness and frankness with him and was always supportive of me. If we had differences we talked about them. So far as I was concerned, it was one of the easiest campuses to have worked with, in my areas of responsibility.

Only once can I recall--and I've forgotten the subject matter--but it was some item on the UCLA campus that was coming up before the Regents, and as I recall, it was a rather controversial one. I always made it a practice to go over all Regents' items with the Chancellors related to that campus, and on this particular one Franklin and I agreed on what we felt was the right course to pursue and the reasons for it. I had made the presentation and sure enough, some Regents didn't agree, began to question it, and turned to Franklin for his comments, which were not compatible or supportive of mine. I was greatly surprised at this, and must admit, a bit angered, so I--I'm trying to think of another word for "shot back." [laughter].

LaBerge: That's all right.

Morgan: I replied rather curtly to the Chancellor that he knew--I think these are quotes--"Franklin, you know darned good and well that you and I talked about this, and we decided on what I have reported to the Regents. And I'm really surprised at what you just said." So then he was, in my view, man enough to say, "I apologize, Elmo, and what you said and the way you presented it is exactly right." The Regents approved the item. There was a short recess and when the meeting reconvened Franklin started the meeting after the recess by asking the chairman's permission to formally apologize for his behavior. Naturally, I felt good. But that's the only time that our agreement broke down, and I don't know why, but we were even better friends after that.

LaBerge: Well, that's really something, that he would do that, apologize in front of the Regents.

Morgan: Well, he did. I didn't ask him to, I didn't say anything at all. He could tell I was unhappy. Perhaps mad is a better word. But he and his staff were always very supportive, and we had a lot of meetings in person and on the telephone. And so it was, in my view, a very good and productive relationship. I wouldn't want anyone to believe that we didn't have our differences--we did. But we worked them out, either with Franklin personally or with his staff, which he later approved.

LaBerge: Which people on his staff would you work with? Or from any campus? Like the business affairs manager, or--?

Morgan: Well, he had a vice chancellor by the name of Bill Young, who was a very good, nationally-known chemist, who was, among other assignments, the eyes and ears for the Chancellor on anything to do with the physical facilities for planning or contracting. Bill Young was well respected in the faculty as well as by the campus administration, so he was a very important link as far as my work was concerned. One of the real old-timers in the old organization, an architect by the name of Carl McKelvey, who later became architect for the state of California, was a mainstay and a very key person to work with. He worked directly under Bill Young.

LaBerge: So would you essentially go down there and be an overall supervisor but have Bill Young do most of the ongoing supervision?

Morgan: Bill Young was the main one on campus. Well, most of my staff--I set the outline and the tone and all, but for example, Bob Evans worked more with Carl McKelvey than I did. I worked more with Bill Young and Franklin Murphy. And then at least in the early years of my time at the University of California, I had not only the architect-engineering part of it, I had the business end of it, too, except for fiscal--finance and accounting. I would work with different people down there on housing and oh, what else, security. Things like that. But they all came broadly under the umbrella of Bill Young.

We had some, well, we called them massive buildings. There had to be large buildings to get all the spaces needed on the land we had to build them on. So it became a real challenge architecturally to do those huge highrise buildings in a manner that wouldn't overpower everything else. We did have some older, smaller buildings that continued. They had to continue, but they looked like dwarfs compared to those bigger buildings.

Another building that was of interest was the performing arts building, and there was a strong input from Hollywood in those areas. Maybe being as close to Hollywood as that campus is, it's only natural. I'm sure they had a lot of contributions in money to do some of the things we couldn't get state money for. But that was a big building, and an important one to that campus. That's all that comes to mind at the present time.

## UC San Francisco

LaBerge: Okay. What about at UC San Francisco?

Morgan: Well, that campus, like the others, had to be expanded. Its mission didn't change essentially, although as I recall, some disciplines were added. But it was an entirely medical campus. The big problem there was expanding enrollment and disciplines with very little land to do it on. So it had to go up in the air. The major buildings early in my tenure in the University were called Health Science Instruction and Research Buildings. They were twin towers, very tall ones. They became known as the HISSER towers--the acronym. That was a major planning job, to locate them in relation to the disciplines that they served and try to get some organization to the total academic program, not mix them up too much.

Another big project was the expansion of the dental school. That was to be, and was finally built, off on the west side all by itself, but that ran into--as I recall--trouble with neighborhood organizations that didn't want that big of a building that close to their neighborhood. It was not settled by the time I retired, so I'm not sure of the terms of the settlement, but they did end up building the building, just in what configuration I'm not sure. Another problem we had was building some student housing, and even the Chancellor's house.

LaBerge: Oh, really? I didn't know there was student housing over there or anything.

Morgan: Yes, which we did by using the steep slopes of Mt. Sutro. By and large, the housing there was married student housing. The Chancellors's residence is on a winding road up Mt. Sutro, and a beautiful location with a magnificent view out over the bay. The first Chancellor to live in it was Dr. Philip Lee, who had succeeded Dr. J. M. B. Saunders by the time we got the place built.

Parking was also a problem, and the major parking was on the north side of Parnassus Avenue, down the hillside and under what was the expansion of the student union building. Other teaching and clinical labs were built on top of the other floors of the multi-story parking structure, which went on down the mountainside to exit on the street below. There are really steep mountainsides over there, and they complicated buildings considerably, but Parnassus Avenue remained the main spine of the campus with buildings on either side of it. So planning that campus presented unique planning problems that weren't present on any of the other campuses.

I was just trying to think of any particular problems. My major work in the early part of my tenure was with Dr. Saunders, who was a fine gentleman in every respect. Good English accent, good sense of humor, and an excellent golfer, although I was not a golfer. I later acquired a set of clubs, but never became a golfer. He had a good architect/engineer staff as well as a good business staff. The administration of a teaching hospital presents a lot of problems, some of them unique no matter where the location is, i.e. San Francisco, UCLA, Irvine, Davis, Utah, or whatever. And San Francisco was not without its problems, but we lived with them and got by with them.

LaBerge: Aren't they trying to expand right now, too?

Morgan: I'm sure the answer's yes; I really don't know how. San Francisco has become one of the leading medical schools in the whole nation. When I started, Dr. Saunders was Chancellor, then Dr. Lee, and then the dean of dentistry was named the Chancellor of the campus. His name was Willard Fleming. Frank [Francis] Sooy [M.D.] followed Bill Fleming. But they all had contributed to the growth in excellence of that campus and of course the present Chancellor is Julius Krevans, although I never did work with him.

Bill Fleming was a great person, a great sense of humor, and more than once in a Regents' meeting when things became a bit tense on something, he would come up with a great remark that would break the ice and get everybody laughing. I'll try to think of one of his anecdotes here to tell you, one of the choice ones.

## UC Davis

[Interview 12: September 11, 1991]##

LaBerge: The last time we met we had started talking about expansion at the existing campuses. And so today why don't we start with Davis and how you were involved with expansion there?

Morgan: My first major experience and memory of the Davis campus is: the Regents were meeting on that campus when I was approved by the Regents to become the vice president of business. At that same meeting Emil Mrak was approved as the new Chancellor for the Davis campus.

LaBerge: And were you present at the meeting?

Morgan: Yes, I was present at the meeting. So in this sense Emil Mrak and I were "born" on the same day. I remember quite well Emil's comment in his remarks to the Regents that the worst thing he could think of about becoming the Chancellor is that he would henceforth have to wear a tie. Again, we were kindred spirits.

LaBerge: And this was 1965?

Morgan: No, this was October, 1959. Following that approval I, of course, had to go back to Utah and wind up my work there and prepare to move. I think we covered it earlier that I came down in January 1960 without my family. My wife stayed in Salt Lake City in order that the children could finish the school year there and then the entire family moved down to California in June of 1960. Back to Davis.

LaBerge: We have talked about that.

Morgan: Emil Mrak, in my view, was a great Chancellor. A very personable, down-to-earth Chancellor. I've forgotten the subject matter specifically, but it had something to do with planning for one of the buildings that he called me about one day. He started the telephone conversation in a manner quite atypical for Emil, that he was very angry about procedures or decisions involving my staff that did not suit the campus and particularly him. I remember distinctly his starting out very critical of my organization and some of the "damn fool" decisions and methods being used.

I immediately decided it was best to let him "run down" before attempting to give him my views and to inform him that his facts were not quite correct. By the time he finished and stopped to take a deep breath I decided that there was no need of a response at that time, so my reply to him was, "Look, Emil, there's no reason for the two of us to be mad at the same time. So I'll call you back. Goodbye," and hung up.

In a very short time--even before I had planned to call him back--he called again and said, "Damn, you, Elmo. You completely disarmed me. I apologize and there's no need to feel that way. So let's talk about the matter again." Which we did, and got things straightened out right away. We both remembered the incident and I'm sure it had a great deal to do with our becoming great friends thereafter.

LaBerge: From other things that you've said, and from what other people have told me about you, that seems like a way you often handled people who were either difficult or angry, and it made for smooth relations. I mean, you just knew how to let things cool down.

Morgan: I don't know whether that came naturally or whether it was a defense mechanism or what, but--

LaBerge: But it worked!

Morgan: --not too many things are settled in the heat of debate, because each side is not thinking or acting rationally. So it's best to let things cool and then try them again.

LaBerge: A lot of people, you know, can't do it. As you well know. [laughter]

Morgan: They want to slug it out. Another incident, having to do with the residence halls being built on the west side of the campus, or at least what was the west side at that time.

LaBerge: Which--? Can you place it for people who have been there?

Morgan: Yes--people who have been there will remember the looks of them in just a minute.

LaBerge: Okay.

Morgan: The original residence halls were largely in the northwest part of the campus, and were all of rather mundane, conventional design. The architect on the new buildings came up with a new design using reinforced concrete in some rather peculiar shapes. When the schematic drawings were presented to the Regents for approval, in the Grounds and Buildings Committee that is, Emil expressed his dislike for the design, as he had done earlier in the Campus Planning Committee. I should add that the dean of students and several others thought the design quite interesting and certainly a departure from the traditional--therefore, somewhat exciting. Functionally, there was no question about the design.

At any rate, in the Regents committee meeting, Emil said that the whole thing looked to him like Stonehenge in England, which he didn't consider very attractive. [laughter] He said it good-naturedly, but it led to an action by the committee to withhold approval until later in the day, after they had had a chance to go out to the site and think about it a little further. The design was later approved that day, and the residence halls were built. Sometime after they were built, when Emil and I were driving around the campus, he recalled the incident and said to me, "You know, Elmo, I like those residence halls better than I thought I would." I thanked him sincerely and told him again I appreciated his being man enough to say so.

LaBerge: Was there a lot of expansion at Davis when you were involved?

Morgan: Yes. There was considerable expansion. One of the biggest parts of expansion which occurred somewhat later--but was a big item in the planning--was a new medical center to be on the Davis campus, with the teaching hospital part to be in Sacramento at the county hospital. Also, a new law school was to be located on the Davis campus. And of course the primary mission of that campus, i.e. agriculture, was to be expanded in many areas.

LaBerge: So were you involved in getting those buildings--the medical school and the law school?

Morgan: The initial ones, yes. There were some interesting renovation projects on that campus, the primary ones being changing old barns and stables into offices. In other words, changing occupants from one animal to another. [laughter] We literally made offices out of horse stalls. These offices were very popular, and I must say, very liveable and real.

LaBerge: There's a certain charm in a barn as opposed to just a concrete--.

Morgan: That's right. The exterior was changed very little, so as you went in you had a feeling of going into a barn, but once inside, there was a very charming atmosphere, cleaned up of course.

LaBerge: Can you remember the campus architect?

Morgan: Yes, the campus architect's name was Clifford Jay. Cliff later left, but he was the campus architect for many years, and a close working relationship between him and the Chancellor's main administrative assistant, Ed Spafford, made it very easy to get productive staff work accomplished on the Davis campus. Another project, one that became a landmark and somewhat sacred as far as any encroachment was concerned, was the park-like development along the Putah Creek that runs through the campus. There was no great flow of water, but enough to make some very attractive lakes and some flow to keep it fresh. It's really a beautiful natural element on that campus.

LaBerge: We've been there on family day, or open house day, or whatever, and I think they have rowing races or something else on that creek.

Morgan: Yes, it was and still is the tradition; well, there are two that I remember. One was in the fall of the year, the "goose stew."

LaBerge: "Goose stew?"

Morgan: "Goose stew," which I guess initially was literally a goose stew, supposedly to enjoy the "fruits" of the hunting season. Later they had more to eat than just a goose. It was a feast that only the Davis campus could produce.

LaBerge: Is the whole campus invited, or--?

Morgan: I'm not sure who was invited, but there was certainly a big crowd there. The other was in the spring of the year.

LaBerge: Maybe Aggie Day.

Morgan: Yes, Aggie Day. And that was a day filled with a parade, with history, comics, and just plain foolishness involved, contests of all sorts, including one that was very interesting to me, with my background having been on a farm--the sheep dog trials. It was always amazing to me how a well-trained dog could be taught by certain signals to round up the sheep and bring them into the pen. In my childhood, we had a mongrel dog who had very little upbringing, and certainly not with skills like I was witnessing for the first time on a college campus. Also at this annual event were great feasts of all kinds, in different locations, of many varieties. It was really, and still is, a traditional event. I can't think of any more for Davis.

## UC Santa Barbara

LaBerge: Okay. How about Santa Barbara?

Morgan: Santa Barbara was a little different than the other campuses in that it was entirely a former marine base, near the town of Goleta. Formerly, the campus had been located near downtown Santa Barbara, but was changed to its new location soon after the school was changed from the state college system to the University system. Almost all the classes and administration and everything else were carried on in the military buildings, some of which were good buildings, and some of which were not. All of them were to be temporary buildings only, but as we've said before, there's nothing more permanent than a temporary building. I have not visited that campus in recent years, but I'm sure some of the temporary buildings are still being used.

One of the first needs on the campus was for student residence halls, since there was little capacity for any housing at all in Goleta, and Santa Barbara was too far for much commuting. Charles Luckman & Associates were selected by the Regents to design the residence halls, which turned out to be very good ones, and very usable buildings. The architectural motif had a strong influence on the architectural style for many other buildings, and I'm sure on buildings yet to be constructed. In fact, it was because of that strong architectural influence being repeated many times on subsequent buildings that led the Regents to decide that it was becoming too monotonous and that while the overall tone should remain, some new design elements needed to be introduced.

LaBerge: What did the design look like?

Morgan: Oh, the main element was more in the brick facades, they indentured the facades in different patterns. There was also some monotony in the soffits--that's an architectural term. It was also because of what was happening on the Santa Barbara campus that the Regents then extended the same policy to all of the campuses. While a unifying architectural theme was necessary to give a sense of unity to the campus, it should not be overdone. This policy turned out to be a very wise one, and was adhered to throughout the system.

## Chancellor's Residence##

Morgan: Another project that comes to mind is the Chancellor's residence on that campus. Again, because there was no nearby town in which to locate a residence, although there were some very nice ones in Santa Barbara, the decision was made to build a residence on campus. A nice site on the edge of one of the lagoons was selected. [Chancellor Vernon Cheadle and Mrs. Cheadle made a great home in this official residence--one with warmth yet with adequate formality for official entertainment. Chancellor Cheadle was easy to work with in the expansion of that campus. His fair but firm style of administration carried down through his staff. Vern was a very approachable person, well liked by students, faculty, and staff alike.][1]

When it became necessary to expand the residence halls, the new ones were built next to the Chancellor's residence. With the advent of rock 'n' roll music and the volume at which the participants in such entertainment had to have on their instruments, the life within the Chancellor's residence became quite difficult.

Some years later, after Chancellor [Robert] Bob Huttenbach took up residence there or rather, refused to, the President of the University appointed a three-member commission, comprised of ex-Chancellor Roger Heyns, myself, and a prominent alumnus of the Santa Barbara campus, who was then an attorney in Los Angeles, and whose name I don't recall. Our assignment was to go to Santa Barbara and evaluate the future use of the Chancellor's residence as a residence and to make a recommendation to the President as to its future use.

LaBerge: Was the President Charles Hitch then?

Morgan: No, it was [David] Dave Saxon. None of us was sure whether by prearrangement or not, but while we were there, there was an ample demonstration of how difficult life might be with the rock 'n' roll music blaring next door in the residence halls. It didn't seem to matter what time of the day or night, it was always going. [laughter] This is not the only reason but it was certainly a big one in our recommendation, that the Chancellor be permitted to live off-campus in a house with a living allowance for whomever the chancellor might be.

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[1] The material in brackets was added by Mr. Morgan while editing his interview.

LaBerge: Otherwise, does the University always provide a residence for the Chancellor?

Morgan: Or some allowance. They do now, and I think that was the case even at the time, that all Chancellors would be provided a house on campus or near the campus at University expense. Ironically, Chancellor Huttenbach's off-campus house became his downfall in that he was accused, and was convicted in a court action, among other things, of spending unauthorized funds, refurbishing and fixing up his private residence.

LaBerge: Earlier you mentioned Regent [Thomas] Storke.

Morgan: Yes, Regent Storke was a longtime Regent and a very good one. He was from Santa Barbara, being a publisher of The Santa Barbara Press, as I recall the name of the paper there. He, of course, was very supportive of the Santa Barbara campus, but certainly not at the expense of other campuses. The central Storke Tower and the plaza bear his name.

Another project that took some time to locate and get underway was the initial married student housing. There was an unincorporated community adjoining the campus on the west, comprised almost entirely of apartments and other facilities for students. These were all privately owned. When we proposed building married student housing on campus these private interests were quite unhappy. We went ahead with the on-campus housing however, which turned out to be very successful, 100 percent occupied, and with little adverse effect on the adjoining apartment owners.

LaBerge: Were the prices comparable, as far as how much the students had to pay?

Morgan: I don't know for sure, I think they must have been. There wasn't too much flow one way or another. The off-campus residents, of course, had more liberty in terms of their living arrangements and presumably their lives, than on campus. Not to indicate that there was much policing of the units on campus, but at least they had to adhere to certain standards. A factor that became more prominent as the campus grew and as the air traffic into and out of Goleta increased was the noise pollution from the nearby airport. This noise pollution, incidently, was another major factor in evaluating the Chancellor's residence.

LaBerge: So was there anything that you could do about that?

Morgan: No. Just live with it. One time we talked to the airport manager to use to the fullest extent possible the runways that would keep the airplanes as far away from the campus as possible, but very few of the planes came directly over the campus except the eastern edge of the campus down near the area where the Chancellor's house and some of the residence halls were located.

LaBerge: Well, when you were deciding to build the married student housing, were you the person to deal with the town or with the private interests? Or would the Chancellor do that?

Morgan: Oh, the Chancellor's office. We were involved with them, but the Chancellor's office was the one that primarily looked after that. One interesting note is that--. Well, the current president of the University, President [David] Gardner, was a vice chancellor on that campus before moving to the President's Office as a vice president. Then from the President's Office he went to the University of Utah as its President. Dave Gardner's initial taste of campus administration was on the Santa Barbara campus. That's about all I can think of for Santa Barbara. It's a nice campus.

## Campus Planning Process

LaBerge: Okay. I have a couple of general questions on planning. How did you develop longrange plans for each campus? I mean, you talked about that it was through the Campus Planning Committee, but how would those committees even start?

Morgan: The planning was not that much different on each campus. Some campuses, of course, were already in existence, and you had to work around what existed, some of which you would like to change but couldn't. On totally new campuses, of course, one had a free hand from the beginning. The general procedure was for the campus itself, through the Chancellor and the faculty, students and administration to come up with a program to embrace the four main segments: academic (including research), student, administration, and support services. Once this was decided, at least in general terms, and reduced to writing, the architectural and engineering planning could get underway.

It is important, however, that during the programming stage that there be some architectural and engineering planning involved, at least to delineate broad parameters, or constraints in some cases. The programming was not only for the immediate future, but for the longrange look as well, since land areas had to be reserved for future expansions, and there needed to be some physical relationship between various academic disciplines that have some relation to each other.

This was a big factor in determining the volume of pedestrian, and in some cases, vehicular traffic. The campus planning unit usually consisted of the Chancellor, or representative of his office, faculty and student representatives, and representatives of the business office and, of course, the campus architect and the campus consulting architect. My office was involved with each campus planning effort.

LaBerge: So either you or one of your staff?

Morgan: I would usually attend the overall planning sessions, along with Bob Evans. However, the real hard work, the follow-up, pick-and-shovel work was done by Bob Evans and his staff. I have mentioned Bob Evans and his staff several times. They represented the architectural part of our business. Of equal importance was the engineering work that was an important part of our assignments, whether new campuses or the existing ones. Frank Crouch was my chief engineer, ably assisted by William (Bill) Baker, presently a vice president for the UC system, in charge of budget and planning.

In any planning effort there are standards used to convert academic and other needs into square feet of physical space. In California these became known as the "restudy standards." On my staff the original keeper of the standards was Donovan Smith and later Robert Walen. The restudy standards were used not only within the University of California system, but in Sacramento as well, in evaluating requests for funding from the legislature. In fact, in Sacramento they often were applied too rigidly considering how they were developed in the first place.

LaBerge: I think that would be helpful for people who have never done it or who are going ahead with planning a campus.

Morgan: Well, as I think I've said more than once before in these interviews, one of the biggest failings in planning is not to think big enough and allow enough room for expansion. There's very little basis or experience to project anything out to fifty years, yet in starting a new campus one has to realize that fifty years is not a long time. It's hard to get anyone to think that far ahead, even ten years ahead.

LaBerge: Well, on all the projects that you were involved in, which specific ones do you think were most important to the development of the University in general?

Morgan: In all the campuses? Oh. Each campus had its important ones, and I don't know, really. Certainly the conversion of Camp Matthews at San Diego into a general campus was a big challenge, as well as the conversion of the marine base at Santa Barbara.

LaBerge: They may be doing that with the base in Monterey--I can't remember the name of it now. The one that's going to be closed. I thought that the state college system was interested in it. Fort Ord.

Morgan: Fort Ord? I don't know what its future might be.

LaBerge: I mean, I think people have just been talking, but that was one of the ideas, that it could be used as a state college.

Morgan: Could be. That suggestion has even been made for the Presidio, for a campus over there.

LaBerge: That's right. They need to call you in. [laughter]

Morgan: I've had enough of it.

LaBerge: As a consultant.

Morgan: The two totally new campuses of Santa Cruz and Irvine, not the main, but one big problem was deciding what kind of a new layout there should be to have a small workable campus to start with yet be able to expand greatly over the years and still have a workable campus. And of course the architectural character. At Berkeley there is something of everything architecturally. Thank goodness for many tall trees and other landscaping, this diversity became a little bit unified. Some of the more recent additions did not help the beauty of the campus, in my opinion. There was a certain architectural character in the buildings at UCLA that was a pleasant one, but one that was hard to project into much larger and taller buildings necessary to accommodate the size of enrollment on limited acreage, especially when a full-fledged medical school, including a teaching hospital, was also to be on this limited acreage.

Riverside had a character of its own that needed to be preserved and yet enhanced considerably, as well as accommodating considerable expansion on what started out as an agricultural experiment station. San Francisco was a question of considerable expansion in a very urban setting, with little space to do it in except on the steep slopes of Mt. Sutro. Davis was a bit of the opposite, of expanding in a way that would not be too spread out.

## Hastings College of Law##

LaBerge: I think the only campus we haven't talked about is Hastings, in San Francisco.

Morgan: Yes, I forget about that. That's a good point. Hastings College of the Law is part of the University of California in one way, but not generally considered a part of the University in many ways. All law degrees from that institution are granted in the name of the Regents of the University of California. All of the capital budgets were developed in cooperation with the Berkeley campus for administrative purposes only. But when the appropriation was made by the state legislature, it was actually made in the name of Hastings College of Law. The campus architect at Berkeley was in effect also the campus architect for Hastings.

LaBerge: That's interesting, for I thought it was considered a part of the San Francisco campus.

Morgan: No, they fought a little bit.

LaBerge: [laughter] The lawyers and the doctors.

Morgan: That's right. What I have described existed at the time I came and was still in existence by the time I retired, but later changed. I should add that the change was taking place, and I unwittingly became a part of the change. I was trying to think of a little bit of history here. There was a big need for additional facilities on that campus. After Marvin Anderson became dean, he began promoting whatever it took or might take in raising private funds or getting additional state funding necessary to build some new buildings--to acquire more land to build new buildings, I should say.

An architect on the Berkeley campus by the name of Norman Jensen was assigned by the campus architect, Louis DeMonte, to, among other duties, look after Hastings College of Law. Along with Dean Anderson's program to get something started to produce more facilities was the need for more on-campus detailed planning, estimating and other functions associated with the campus architect office. I had become very good friends with

Dean Anderson, and helped work out the transfer of Mr. Jensen from the Berkeley campus to a full-time position at Hastings as a campus architect for that college.

Along with this "deal" I agreed to donate a little of my own time toward guiding the overall project and more specifically, to help present the program in Sacramento. After I retired as a vice president of the University I became a consultant to Dean Anderson, and continued my planning efforts for the college and became Dean Anderson's Sacramento representative so far as the capital outlay was concerned. We were successful in obtaining a federal grant to help build a student union building on campus, which was incorporated in a building partially funded by the state to house the campus library, and also to provide some badly-needed faculty offices and limited classroom space. It took quite a bit of effort and salesmanship--is there such a word as salesmanship?

LaBerge: Yes.

Morgan: --salesmanship to work out the arrangements with both the federal funding and the Department of Finance and Legislative Analyst's Office in Sacramento. But we finally got it worked out and the building was built, all within budget. One instance I quite distinctly remember about that building was one year in getting the funding through the state legislature, the Department of Finance representative as well as the Legislative Analyst's representative, both raised the question about carpeting in the library. Our discussions were all good-natured, with my argument being based on the considerable data that had been compiled by national organizations to show the benefits of carpeting in the library.

I finally won on that argument, but I could not convince my sparring partners about extending the carpeting to offices and the entryway into the library. We were at an impasse, and finally Bob Gibbs, the Department of Finance representative, said, "I'll match you for it." I thought for a minute and figured that I would be a hero at Hastings if I won, but not sure what I'd tell Dean Andersen if I lost. He flipped the coin, and I won. So I made Dean Andersen very happy and the Sacramento people were true to their word and recommended the appropriation. Dean Andersen and I have since mused a little bit as to what we would have done had I lost. I'm sure he would have gone out and raised a little more private money to take care of it. [laughter]

After Dean Andersen left to become the dean of the law school at the University of Hawaii, he invited me to join him over there in planning a new law school, which I was happy to do. Even later, he became President of the University of Hawaii, and I did some consulting work for him on overall campus planning as well as the business operations of the entire University. So one thing led to another.

LaBerge: I guess so. That's happened all through your life.

Morgan: Even later still, after retiring from the University of Hawaii, he was called back to duty and became President of Hawaii-Loa College, a private institution on the island of Oahu. So again I was called into service and was a consultant to him on planning that small but very beautiful campus on the leeward side of the island. He has since retired again to his ranch in Bend, Oregon, but he hasn't invited me to be a ranching consultant. [laughter]

LaBerge: Well, the whole story of Hastings is very interesting, that it was really connected to the Berkeley campus.

Morgan: Yes. I didn't say anything about the operating budget. They presented their own operating budget in Sacramento, and more recently they--so far as I know--are completely independent of the Berkeley campus on both operating and capital budget. They may also be independent of the President's Office on both budgets now as well. I simply don't know. The degrees, however, are still granted in the name of the UC Regents so far as I know--although Hastings has its own separate board of trustees.

LaBerge: Isn't Boalt Hall [School of Law] a part of the Berkeley campus?

Morgan: Boalt Hall? Yes.

LaBerge: I mean, it doesn't have its own, separate--?

Morgan: No. Boalt Hall is definitely a part of the campus, and a very strong part of the campus, I might add.

LaBerge: Right. [laughter] Was there rivalry between those two?

Morgan: I'm sure the answer is yes. Hastings has developed over the years a reputation for more practical aspects of the law, if I may use that term. And Boalt more on the abstract or whatever part of the law you call the opposite of practical law, I don't know. But Hastings has many courses and even many postgraduate courses tailored to the actual practice of law rather than the theory of law. It has a very active and supportive alumni organization. It has what is called the 1066 Club.

LaBerge: I've heard about it, but tell me a little bit about that.

Morgan: It had its origin in the early days when the faculty of Hastings was almost all retired practicing attorneys and retired judges, which meant most of them were sixty-six years or older. So I think it started out, I'm not sure, I think it started out as a faculty club where they were all over sixty-six, and maybe there were only ten of them to start it. [laughter] But it's carried on, and it's used as social club as well as a very productive fundraising organization.

I was an honorary member for a while, mainly because I made a donation one year. More recently they have recruited young members of the academic staff, although there are many distinguished members of the legal profession from other universities or from retiring judges that come to Hastings and teach for a year or more, and have added great distinction to Hastings College of Law.

LaBerge: It just dawned on me that 1066 is the battle of Hastings. I mean, the year 1066. Maybe that's part of--.

Morgan: Hey, yes. I think you're right. I'll have to expunge what I said.

LaBerge: Well, we don't know.

Morgan: Well I think that's it, the battle of Hastings in 1066. They jokingly--at least when I first heard about it--they jokingly said you had to be sixty-six years or older to join. That was more of a joke, because I think the joining was merely a contribution.

## Workload

[Interview 13: September 17, 1991]##

LaBerge: Last time we finished talking about all the campuses and all the improvements and changes that you were responsible for. Why don't we go back to just your title and the description of your job? When you were first hired you were vice president of business, and then the title was changed to vice president of physical planning and construction. Is that right?

Morgan: That's right.

LaBerge: So did your job change, or did the title just change, or what happened with that?

Morgan: Both did. The size and complexity of the building program grew remarkably during my first five years. We have already outlined events that led up to the decision by the President and the Regents to change my duties to embrace only the expanding building program. At any rate, a change was made in title and in the workload itself. In my new role and with my new title, I no longer had anything to do with the auxiliary enterprises, such as operation of residence halls, parking systems, student buildings, and similar operational functions. Rather, I was to devote full time to formulation, funding, and execution of the capital program.

LaBerge: So did you give up the operational budget?

Morgan: Yes, I gave up that part of the operational budget that I previously had. I never was involved with the academic budget. I did, however, continue to have under my jurisdiction all the operation and maintenance of physical plant. This was a natural thing, since it has been demonstrated time and time again that if the same person has to maintain buildings, he will give more care to what is built, in terms of quality and useful life of a building or other facility. To this extent there was a little overlap between the capital and operating budgets, since the operation and maintenance of physical facilities was and still is a part of the operating budget.

LaBerge: But did you stop going to Sacramento? Was that part of it?

Morgan: No, no. My responsibilities in preparing for Sacramento and actually going there to defend budgets was for funding to build and maintain the facilities.

LaBerge: Who became vice president of business?

Morgan: All of what I had been doing before the change was transferred to Vice President Raymond Kettler, who prior to that time had the title of vice president of finance, and the major responsibility for accounting and auditing of all the University's financial affairs. So Ray simply picked up those responsibilities that were deleted from my area of responsibility.

LaBerge: I know when I spoke to Doras Briggs, she said she was delighted when they made the change, because your office was so busy that there wasn't time or energy or people enough to do everything that you were supposed to be doing.

Morgan: That's right. We were really getting overburdened since the capital program had grown so rapidly, and we were nearing the one billion dollar mark of projects in design or construction as an ongoing workload. In today's construction market that doesn't sound too big, but in 1965 it was probably the biggest construction program in the entire state. Doras had the prime responsibility of keeping everything coordinated and was doing an excellent job. But I'm sure she was glad for a little relief.

LaBerge: Well, before we leave you and that job and go on to your next job, do you want to comment on some of the people you worked with? I mean, I have a list of some people, but--.

Morgan: You mean that were--.

LaBerge: On your staff or on the campus. There's one person you told me a story about--off the tape, I think. It was when you were in charge of the police force on campus? Bill Wadman?

Morgan: Bill Wadman.

LaBerge: Was he a risk security officer? Risk management?

Morgan: Well, they have different titles now. Bill Wadman was formerly on Vice President Corley's staff, primarily in charge of police work on all of the campuses. I'm not sure who was handling the insurance program at that time, but the need for additional oversight of insurance in the building program as well as in other areas began to expand, and I decided that Bill Wadman would make a good man to handle this.

LaBerge: When you're talking about this, do you mean liability insurance?

## Insurance Programs at the University

Morgan: Yes. There are different kinds of insurance even within the University building program; liability insurance was the main one. There was automobile insurance and all types of insurance related to auxiliary enterprises in the operational problems. There were also different bond requirements for all construction contractors. I recall asking Bill if he had any experience in the insurance business, and his reply was, "No, sir, Boss. But I'm sure willing to learn." And he did learn--by whatever means I'm not sure, but he became a very good insurance manager as well as a good security man.

The title of "risk insurance" as now known was not used at that time, at least by the University. With all of the lawsuits being filed for everything imaginable these days, risk insurance has become a big section all of its own within the University. I don't think we've talked about this before, but one program that we did get started and which Bill Wadman spearheaded for me was the concept of "wrap-up insurance."

LaBerge: Oh, I don't think we have talked about it.

Morgan: This was a program intended to have the University enter into or have written an insurance policy for the total construction on all campuses, rather than having each contractor provide his own liability and accident insurance on each contract on each campus--all at a price, paid by the University as part of the contractor's lump sum bid. In total it added up to a rather astronomical figure, and by working directly through insurance brokers the University would pay only one premium, at a greatly reduced amount, compared with the total of all the segments by different contractors. I remember especially Regent Carter being enthusiastically in favor of the plan, and a great booster within the Regents for it.

We developed it and got it in operation, but then ran into political trouble. In retrospect, the politics were very simple; all of the dozens of insurance companies that traditionally sell policies to each of the contractors saw a lucrative part of their business being taken away and being concentrated in one place. Through their own organizations they lobbied their senators or assemblymen in Sacramento rather heavily, and were successful in getting a bill approved in the legislature prohibiting the use of "wrap-up" insurance by the University.

The insurance industry in the state of California is big, and it is politically powerful. They had many more "friends" than we did, and certainly more money to spend on lobbying. We did get far enough with the program to demonstrate that millions of dollars could be saved, but that did not carry much weight in the political world.

LaBerge: It's certainly too bad when it's state money that was going to be saved.

Morgan: I was just going to add, out of one side of their mouths the politicians preach and teach the need for saving, but when those who pay for the political campaigns begin to talk--begin to apply pressure--then the politicians speak out of the other side of their mouths. In effect, here was a part of the state government, i.e. the University of California, getting into a business that rightfully belonged in the private sector. Anyway, it was a good idea that came to a sad ending.

LaBerge: So that now is it still the same? That every contractor gets his own insurance?

Morgan: Yes. Yes, it reverted back to the status quo. Let's see. I can't think of any more foolish things that we tried. [laughter]

LaBerge: But you tried a lot of--I mean you had a lot of innovations.

Morgan: The construction industry even today has a great need to "break out" of the traditions built over many, many decades and find new ways to get things done. The industry is really shackled with the methods of the past--not that they're all bad, but some of them are certainly lacking in good, forward-looking planning and execution of construction work. The growth of the legal industry has not helped the situation in the least. I better quit with all that.

LaBerge: Okay. You've said a little bit about that in the past.

Morgan: Yes.

# XIII RETIREMENT FROM SYSTEMWIDE ADMINISTRATION

## Move to John Warnecke & Associates, 1970-1974

LaBerge: What prompted you to move to the private sector, to leave the University and work for John Warnecke & Associates?

Morgan: I'm not sure in total, but one thing I am sure of, and that was the attitude of our new governor, Ronald Reagan, toward funding any program for the University of California. He apparently was so embittered or entrenched in his ideas against the University--resulting from the Free Speech Movement--that it seemed to me there was little hope of continuing our progress of expansion and innovation that had been a trademark during all of the time that I had been at the University.

Perhaps another reason was a perpetual one within any person, i.e. that the pasture on the other side of the fence always looks greener. I had toyed with the idea for some time that I would like to try the other side of the fence to learn more about the practical side of design and construction, which would, in my opinion, help round out my education and experience. John Carl Warnecke, who was a prominent San Francisco architect, had offices in Washington, D.C., New York, Boston, and other cities, and thus operated on a national basis. He had gained a bit of notoriety as the architect for the [President John F.] Kennedy grave site, and subsequently doing some important government buildings in Washington, D.C. Jack Warnecke had talked to me several times about coming to work for him, which I had thus far resisted. But when the clouds overhanging the University became darker and darker, I decided I would make the move.

I should add parenthetically that I was a bit surprised in retrospect, since having worked with the Warnecke organization and Jack personally in the development of the longrange development plan at Santa Cruz, that I had remarked--and my wife well remembers it--that Jack Warnecke would be a terrible man to work for since he had a great ego, and from an outsider's perspective, would probably be difficult to work for. Just why with that bit of thinking I went to work for him, was a good question, but I suppose I considered it a challenge. Anyway, I did go to work for Warnecke as a senior vice president in charge of administration for the company on a national basis.

LaBerge: So did that involve a lot of traveling?

Morgan: Yes, traveling to the different offices, and I should add that one of these offices was in Hawaii, which added to the interest and variety of travel. This new adventure in my professional life was interesting and challenging, and I must say, very worthwhile.

LaBerge: What were your duties as senior vice president?

Morgan: I was in charge of all of the budgeting, accounting, and overall scheduling of projects. I was also deeply involved in business development for the firm.

##

LaBerge: You were just saying you were in charge of business development.

Morgan: Yes. During my years with the University of Utah and the University of California, I had developed many contacts with many universities across the entire country. These contacts proved to be very valuable in terms of new business for the Warnecke firm. I must add that it wasn't too long after working for Jack that my earlier suspicions and statements regarding his type of management were confirmed.

Jack was a good person, a good individual. In terms of forward-looking, as to where architecture should be, and what was generally good design, he was very good. He could easily be at A and visualize what Z should look like. However, he was very short on how you get from A to Z by doing A, then B, then C, etcetera. He was not a designer, but he was a good critic of design. He was what you might call a social architect, with many good contacts through his social circles, which was good for business development, but not so good for actual accomplishment of work.

LaBerge: Well, you mentioned before how you had to call him back from Italy when you were in the middle of the Santa Cruz campus planning.

Morgan: Yes, he remembered that, joked about it. That continued to be the case, especially on one job in Minneapolis. It was a large job, and the firm had the contract not only to plan it and design it, but also to oversee the management. Warnecke himself was a great salesman, and a lot of the commissions awarded the firm were no doubt a result of his personal charm and personal promises that he would continue to be a part of the project.

On that particular project, after the contract was once signed, he practically disappeared from the scene and those of us who were left to do the work were reminded many times by the county commissioners of Jack's earlier promises. I was the coordinator for that particular project, and more than once the county commissioners asked me if Jack Warnecke were still alive. I had to promise that I would produce him at an early meeting, otherwise they threatened to cancel the contract.

It was not so much that he contributed anything significant when he did visit the job, rather it was that he had promised certain things at the time the presentation was made, and it apparently rankled the commissioners that he hadn't lived up to that part of the promise. In fact, it was difficult whenever he did visit a job, since he had not been keeping abreast of the progress and changes, and would not have the background needed to answer some of the questions. As a result, he often made promises that we often had a hard time living up to.

LaBerge: What kind of a project was this in Minneapolis?

Morgan: This was the Hennepin County administration building, a huge project.

LaBerge: Did you go and live in Minneapolis while the whole thing was--?

Morgan: No. I visited there at least twice a month and stayed there several days, but stayed in a hotel. My visit to Minneapolis would usually be on a return trip from visiting the office in New York City, and I recall distinctly what a relief it was to get out of New York City and stop in Minneapolis. From that, one could infer that I didn't care too much for New York City, which is entirely true.

## Director of Facilities Management at Berkeley, 1974-76

Morgan: About two years after I had left the University, the Regents changed the retirement system in a number of ways, greatly enhancing the pension plan for those who would be retiring after the effective date of the revisions. I had left my retirement plan intact at the time I went to work for Warnecke, and therefore was greatly interested in the revised retirement plan. I studied it in some detail, and learned that in order to be eligible to participate in the increased benefits I would have to return to the University as an employee for at least one year before formally retiring. I concluded that I simply couldn't afford not to return to the University in order to participate under this greatly improved retirement system.

I made my interest known to Bob Kerley, then vice chancellor at Berkeley, and asked him to keep his eyes open for some place I might fit into his organization, and finish out my retirement plan. Within a few months after this conversation, Bob Kerley called me to ask if I was still interested in returning to the campus. I assured him I was, but there was no rush since I was being kept busy at Warnecke at a salary probably exceeding what I would be getting at the University.

It seems that Louis DeMonte, the campus architect, was planning to retire, and that I would make a logical candidate for the position. Further discussions with Bob led to the idea of combining the campus architect function along with the plant operation system, into an overall organization to be known as Facilities Management. I told Bob I would be very interested in returning to the University for that position on the Berkeley campus, and thus the wheels were put in motion for another change in my professional career. Bob asked me about a title that would satisfy me since he knew--and in fact he and I had worked together on many occasions--that I had been a vice president.

LaBerge: So this was kind of a comedown.

## Desire to Work on a Campus

Morgan: Well, that's what he was concerned about. I told him I was past the age when titles meant a whole lot to me, that I was more interested in returning to work for the University, and especially on a campus rather than on a Universitywide basis.

LaBerge: Why was that?

Morgan: I had worked on a campus at the University of Utah, and then on the Universitywide basis for many years at the University of California. I had concluded even before I left the University the first time, that if I ever returned, I would want to be on a campus where the action really occurs. There's a certain satisfaction in working on a broad basis in a central organization, but the action really takes place on a campus.

It is there that you mingle with faculty and students and get the flavor of what a university is all about, as well as seeing projects that you become involved in actually get built, put into operation, and into use, for the purposes intended. Bob indicated that he'd like very much to give me the title of vice chancellor, but that was out of the question, so we settled on a title of director of facilities management. In later years this title was actually changed to assistant vice chancellor.

LaBerge: When you held it, or after?

Morgan: After.

LaBerge: So was Albert Bowker the Chancellor?

Morgan: Yes, Albert Bowker was Chancellor.

LaBerge: But you weren't responsible to him?

Morgan: No. I was actually responsible to an associate vice chancellor by the name of [Theodore] Ted Chenoweth. I had not known Ted Chenoweth prior to that time, but we got along very well from the very start, and he was in fact an easy person to work for. He reported directly to Bob Kerley, the vice chancellor. Knowing of my long experience in the facilities business, Chenoweth was very happy, and in fact encouraged me to work directly with Bob on most of the entire program of design, construction, and maintenance. He was especially happy to have me handle almost entirely and work directly with the top echelons on the Berkeley campus, in the formulation and funding of the capital program.

LaBerge: So who were those people? The Academic Senate? Or the Development Office?

Morgan: All of them and of course, Bob Kerley himself. The vice chancellor at the time was Mike Heyman, and then many times in meetings with Al Bowker, the Chancellor. We did have a lot of direct contact with the provosts, deans, and various academic committees, especially the Campus Building and Development Committee.

LaBerge: Did they still have the Campus Planning Committee or not?

Morgan: Yes, the Campus Planning Committee was still in existence, and I became the unofficial secretary of that committee. We did of course work with the Development Office since a number of our projects were dependent upon non-state funds. We did a lot of work to more closely integrate the functions in the campus architects's office, with those of the physical plant office. Traditionally those two offices like to work separate and apart from each other, since the designers don't want to be told by the plumbers how to design the buildings, and the plumbers don't want to be told by those damn fool theoreticians on what's good for maintenance.

LaBerge: But you combined the two offices anyway?

Morgan: Yes.

LaBerge: I mean, you were both--.

Morgan: I was over both of them, and I had had a good deal of experience on both sides, so my main contribution to that effort was a peacemaker, trying to get each side to see what the advantages were of working more closely together. Some of the old diehards were retiring, and that made life a bit easier. To this I should add that across the country this turned out to be a developing pattern. We were on the front edge of this movement, and I was invited on more than one occasion to speak at conferences on how to go about doing it. I was trying to recall other battles that we--.

## Relationship with the College of Environmental Design

LaBerge: What projects did you have going on campus, then?

Morgan: Oh, my. I don't know. I'll have to think about that. On any campus where there is also a school or department of architecture, there's always some difficulty, and at times some conflict, between the academic department and the campus architect's office. The Berkeley campus was no exception. During the many years, Bill Wurster--that's William W. Wurster--was dean of the School of Architecture and Louis DeMonte was campus architect, there was really no great conflict because of the great admiration each had for the other, and the similarity in approach to architectural problems. By the time I came back to the campus there was a new dean of architecture or, as it was known by that time, the School of Architectural Design, or the College--I forget which it was.

LaBerge: Of environmental design, maybe?

Morgan: Of environmental--I don't know if it was a school or college, then. School, I think. School of Environmental Design.

LaBerge: And who was that?

Morgan: [William] Bill Wheaton. He was a very delightful person, but had his own ideas of how things should be done. He didn't mind making suggestions, and rather strong ones, about appointment of outside architects and giving instructions directly to them once they were hired. I had become quite well acquainted with Bill by that time, but I remember having lunch with him one day and telling him that only one of us could run the building program on the campus--either he had to do it, or he had to let me do it. I told him I would be glad to go with Bob Kerley to see the Chancellor, and let the Chancellor decide who was going to do it, but he decided he didn't want any of that. So he did back off and behave quite well after that.

This has been a repeat performance in my professional career many times, but one has to get things straightened out right from the beginning, or there is no end to invasion of your turf unless you do it. I also had to do the same thing in the remodeling of Boalt Hall for the College of Law.

## Remodeling Boalt Hall##

LaBerge: You were talking about remodeling Boalt Hall. Which part was being remodeled?

Morgan: Oh, it was the older building--I can't describe it--it's not the new edition, but the older building. One particular faculty member had been very active in the programming of the work, wanted to remain too active, in my opinion, in directing the architect and even the contractor. We had to get him straightened out in the same manner that I have just described to get the dean of Environmental Design in line. He was a good faculty member; he has since been appointed a judge, federal judge, and his background is the historical--

LaBerge: Oh, I know who it is, I bet. John Noonan?

Morgan: Yes, that's it.

LaBerge: Canon law.

Morgan: Yes, canon law, that's right. John Noonan. Again we were and remained good friends. I've learned that certain people will try to see how far they can push, but when they find you mean business, will back off and remain friendly, and it doesn't interfere with friendships. It's just a push-and-shove game, and you get pushed around and away unless you stand up and get things straightened out to begin with. So I've run into that many times.

LaBerge: But it seems like you've always solved it smoothly.

Morgan: Well, you just lay it on the table, tell them, "Look, I don't care." Of course by the time I got back on the campus, I knew I could last out the one year that I had to go, and so I wasn't concerned about doing something that would endanger my career or get me fired or anything else.

LaBerge: You stayed in that job, though, for three years. Is that right?

Morgan: That's right. Approximately three years. I had intended only one year, or not too much longer, when I first came back, since I really had in mind becoming retired and doing whatever retired people are supposed to do. We became involved in so many projects that were time-consuming and difficult to break continuity that I volunteered to stay "a little" beyond my one year. After that, Ted Chenoweth and Bob Kerley talked me into one or two extensions, until finally early in 1976 I told both of them that I fully intended to retire sometime late summer or early fall. It actually turned out to be August 1, 1976.

In the meantime and while working on the Berkeley campus, I had been invited to participate as a consultant in a number of projects that I wanted to pursue in greater depth and to devote more time than was possible, along with the campus job. One of these was at the University of Utah, where David Gardner had become the president. He had invited me to spend quite a bit of time helping on the expansion of the medical center at that campus. I believe we have talked about this earlier.

LaBerge: We talked about that, yes.

The Morgan family, 1985: Tony, Kent, Frances, Nancy, Elmo

## Retirement from UC, 1976

Morgan: At any rate, I did retire, again, from the University of California. My wife and I decided that it was time to take a real vacation, so we got in our car and headed for the New England states and the Canadian provinces. We did in fact visit all of the eastern provinces, except Newfoundland, as well as the New England states, and on down the East Coast of the U.S. to Gaithersburg, Maryland, where our oldest son lives. We then went on down to Florida and returned across the southern states to Tucson, Arizona, where by that time we had purchased a home, intended as our place of retirement. We had been gone for about two months and driven our new automobile about 10,000 miles. I continued to do consulting work.

LaBerge: Were you living in Tucson by this time?

Morgan: No. We did retain ownership of our Tucson home for a little while after that, but finally decided our roots were too deep in the Bay Area. So we decided our retirement home would be at Rossmoor in Walnut Creek rather than Tucson, Arizona. Accordingly, we sold the Tucson home, but enjoy going back each year to visit familiar places in the desert. We really love the desert.

LaBerge: You continued, though, to be a consultant.

Morgan: Yes. Well, one of the major jobs was, I think we've talked about it earlier, I returned to the Berkeley campus as a consultant, but practically a full-time one, at the request of then-Chancellor Heyman, to help manage the big expansion project in the biosciences on the Berkeley campus. I believe we've already talked about it.

LaBerge: We did. But now you consult with Vice President [William] Baker.

## Consultant for the University

Morgan: Yes. I also became a consultant to Vice President Baker, not on any specific projects, but on an overall project aimed at finding better ways to formulate and deliver the Universitywide capital program. I had hired Bill Baker in his initial employment with the University when I was a vice president. And I have on many occasions told him that he was merely feeling sorry for me and was hiring me for a good ripening, or whatever you might want to call it when you're once out to pasture. He claims this not to be the case, but it has been an interesting assignment. At least he's kind enough to refer to me as one of his mentors. The work with Bill has been on a very broad basis, and continues even to this date, though on a diminished basis.

We started the effort by dividing the problems into two main categories. One, revising the contract documents used in design and construction throughout the entire University system. These documents have been changed from time to time, using a "band-aid method," and were not too well accepted in either the architectural-engineering professions or in the contractors' community. That was the first effort involving a select policy committee, with Bill as the chairman, and with me as his "expediter."

After that program was well underway we started the second category, which was to find a better way to formulate the capital program from its inception in the programming stages through funding, design, and construction. Perhaps one of the reasons Bill invited me to help him in all of these reviews was that over the years he had found many policy memos signed by one Elmo Morgan, in years gone by. He figured one of the best ways to change them was to get the author back to reconsider some of these old and almost-forgotten ideas.

The first category of revising the documents is completed, and the new documents are now totally in use on a Universitywide basis, with good results. The second category of effort in improving the development of the capital program is still in progress, but already there have been many improvements, and hopefully more will yet be developed and agreed upon.

From my point of view, it has been a very worthwhile project, but the longer one stays away from the active, ongoing programs the more difficult it is and the less productive one feels about participation. In fact, I am not completely, but to a large measure, out-of-date in the acronyms used and even some of the language used in describing procedures within a university. The lingo used in any organization changes from time to time just like the rock 'n' roll music, dance steps, or anything else. I am really an old-timer with too much grey hair to contribute to the younger way of doing things. Amen. [laughter]

LaBerge: Shall we have that be your end?

Morgan: That's a good place to stop.

LaBerge: Okay. I want to thank you on behalf of all the people who are going to read this and benefit from it.

Morgan: [laughter] Oh, we'll think of some more--.

Transcriber: Rita Bashaw
Final Typists: Christopher DeRosa, Marta Sykes

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